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ABSTRACT

To evaluate course effectiveness, determine relationship to selected characteristics of success in the course and on the job, and provide answers to a number of educational questions, 16 occupational home economics classes providing training for dietary aides, nurses aides, and health careers were selected for study. Course effectiveness was measured by three attitude scales, a motivation-for-enrollment questionnaire, and tests of knowledge and comprehension, which were administered at the beginning and end of the course. In addition, each student was interviewed, descriptive rating scales measuring employability were administered, and data were collected from teachers. Data were analyzed to compile an index of student success and to correlate test scores with relevant variables. Variables most often associated with the index were self-concept, academic ability, and attitude toward working with others. Significant positive changes between pretests and posttests were noted in the crucial areas of knowledge, motivation, and personal characteristics contributing heavily to employability. There were gain scores in seven of the 16 classes on the Attitude Toward Work scale. The findings suggest a need for inclusion of sex and consumer education in future home economics occupational education courses. (SB)

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FINAL REPORT

Grant No. 13012-5

Evaluation of Secondary School Programs to Prepare Students for Wage Earning in Health Care Occupations Related to Home Economics

December 1968

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State Education Department
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Helen Y. Nelson and Gertrude P. Jacoby

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New York State College of Home Economics
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TABLE OF CONTENTS

Page

INTRODUCTION

The Problem 1
Review of Related Research 2
Objectives of the Study 4

METHOD

Description of the Samples 6
Description of Courses 17
Collection of Data 18
Development of Instruments 19
Determining Quality of the Instruments 22
Statistical Analysis to Determine Interrelatedness of Variables 24

RESULTS: QUALITY OF INSTRUMENTS

Attitudes Toward Health Services Jobs Scale 26
Achievement Test: Preparation for Employment in Health Services 27
Nurse's Aide Descriptive Rating Scale 27

RESULTS: COURSE EFFECTIVENESS

Index of Success 29
Relationships Between Indices, Student Characteristics, and Work Experience 30
Difference Between Pretest and Posttest Scores 30
Student Interviews 32
Work Experience 35
Follow-Up Study 35
Dropouts 40
Dietary Aide Sample 41
Health Careers Sample 46
Nurse's Aide Sample 50

RESULTS: CORRELATION MATRICES

Dietary Aide Sample 58
Health Careers Sample 66
Nurse Aide Sample 72

Page

RESULTS: TEACHER REPORTS
Background of Respondents 81
Selection of Students 86
Time Demands 86
Instructional Materials 89
Financing 89
Facilities 91
Teachers' Evaluation of the Pilot Program 95

RESULTS: REPORTS OF GUIDANCE COUNSELORS
Guidance and Counseling Support 98
Reasons Why Students Dropped Out of Class or School 100
Observed Student Change Attributable to Occupational Course 101

DISCUSSION
Quality of Instruments 103
Course Effectiveness 103
Work Experience 107
Follow-Up Study 108
Dropouts 109
Reports from Teachers and Guidance Counselors 109

CONCLUSIONS AND IMPLICATIONS 111

SUMMARY
The Problem 114
Objectives 114
Method 114
Results: Quality of Instruments 117
Results: Course Effectiveness 118
Results: Correlation Matrices 121
Results: Reports from Teachers and Guidance Counselors 123
Discussion 124

REFERENCES 126

APPENDIX 128

INTRODUCTION

The Problem

Goals of education are two-fold: to meet the needs of the individuals whom it serves and to meet the needs of the society in which the individuals must live. The academically talented have the opportunity to be well prepared to fill the responsible positions society rightly expects of them; but this isn't enough. The less academically talented must have a chance at the kind of education which will assure society of workers to fill the kinds of jobs which only they are available to do. The jobs are no less needing to be done, no less worthwhile, than those requiring more rigorous studies. Occupational education should add the diversity and practicality which our present educational system lacks.

The passage of the Vocational Education Act of 1963 has greatly expanded the task of vocational education in home economics as in the other vocational fields. New areas of training have been added to the traditional concerns of the home economics educator. Home economics may now prepare "...individuals for gainful employment in any knowledge and skills in home economics subjects..." (11).

The findings of the Panel of Consultants on Vocational Education indicate that vocational education programs of the future will need to be concerned with such vocational needs of new clientele as:

a. Training programs which provide opportunities to acquire skills, to earn money, and to gain experience in and appreciation of the world of work.

b. Learning at an early age the dignity of labor and the pride of workmanship, of special significance to the academically less talented.

c. Obtaining work experience in realistic, up-to-date settings, a situation more apt to be found on the job than in contrived settings of the classroom.

d. Developing attainable goals and occupational aspirations of a constructive nature through direct and personal involvement in the world of work. (15)

Cooperative work-experience programs, which have been established to meet these vital needs of new clientele, are therefore primary concerns of educators responsible for providing training in expanded vocational education offerings.

Review of Related Research

Four program evaluations are reviewed here which are of special interest to occupational educators: two experimental programs training food service workers (7, 8), a nurse aide school-work program (17), and an evaluation of 12 home economics occupational education classes in food service and child care (10).

Two pilot programs training food service workers were conducted during the 1964-65 school year, one in New York and the other in Illinois. Fifteen junior and senior students were enrolled in the Illinois study and 14 in the Ithaca, New York, class. In both instances outside work experience was a major feature of the course and special emphasis was placed on developing minimum attitudes, skills, and knowledge which would facilitate the student's entrance to employment in the food service industry. Findings from the Illinois study included satisfaction of employers with course participants in terms of cooperation, courtesy, initiative, appearance, reliability, and work habits; growth in knowledge about employment practices in general and food service jobs in particular as measured by an achievement test; interest and enthusiasm expressed by participants; and gain in self-confidence resulting from the use of realistic learning experiences related to employment procedures (8).

The main purpose of the Ithaca study (7) was to develop instruments for use in evaluation of occupational home economics programs and to refine one instrument, an Attitudes Toward Work scale. An index of student success in the pilot class was developed by ranking students according to their scores on descriptive rating scales measuring personal characteristics, waitress and catering skills; an achievement test; and the Attitudes Toward Work scale. The index was compared with ranks of students on motivation for enrollment, IQ, academic ability, total amount of supervised work experience, and SES. Significant relationships were found between the index and IQ, academic rank in class, and total hours of supervised work experience. In individual interviews all the girls said they felt the course had been helpful and they enthusiastically endorsed the course and related work experience. Trained observers of the pilot study reported that the greatest gain shown by the students was the poise, confidence, and pride they exhibited.

Wilbur studied a nurse aide school-work program offered in a Rhode Island high school (17). A twelfth-grade class of 27 was divided into two groups which alternated every two weeks between school classes and hospital work experience. Hospital personnel were consulted regarding course content and a specially designed home economics course stressing the importance of human relationships and good management was a required subject for the nurse aides. There were no dropouts or failures in the program and attendance improved over that of the previous year. Three years after the first girls finished the course nearly 50% responded to a follow-up questionnaire. Answers revealed that many girls had continued in the nursing field or had used the training in other capacities. The respondents were enthusiastic about the course and the personal satisfaction they had received.

A New York State study (10) had as its objectives the evaluation of student progress in occupational home economics programs, discovery of student characteristics related to success both in the classes and entry-level jobs, and provision of descriptive data regarding the establishment of occupational education programs. The sample included 138 boys and girls in 12 classes training child care aides and food service workers which were offered in local high schools and area occupational centers. Analyses included comparison of the index of course effectiveness developed in the Ithaca pilot study (7) with student characteristics, correlation of test scores for the total sample with selected Vs, and multiple regression analysis of two instruments: Attitudes Toward Work scale and Employer's rating.

Variables found to be associated with the index of course effectiveness were self-confidence, academic ability, attitudes toward school and working with others. Significant gains in post-scores for individual classes were shown most often for the achievement test, Interest in Occupational Training scale, and the descriptive rating scale of personal characteristics--Becoming Employable. Outside work experience during the occupational course was important to student satisfaction with the course, follow-up wage and job status, and employer rating. Most working students, who earned less than the minimum wage prior to the course, earned the minimum or better by the conclusion of the course. At least minimal satisfaction was shown by employers with trainees and by trainees with their jobs.

Participating teachers were able to work successfully with students of widely varying abilities. By the conclusion of the course, teachers felt more sure of their educational background and more accepting of their students. An impression frequently expressed by both counselors and teachers was that many students were achieving success and recognition for the first time in their school experience.

The study established that a successful program in home economics occupational education was characterized by: (1) students having related outside work experience with their course, (2) students demonstrating a feeling of acceptance for the course and for the work for which the course was training them, (3) a positive teacher, (4) support of the administration, and (5) a program of personal guidance.

Objectives of the Study

Several areas of home economics are appropriate for occupational training, but home economics educators have had limited experience in incorporating wage earning programs in secondary school home economics programs. The present study was undertaken to provide information concerning programs in the area of health care services: to provide help for teachers, administrators, curriculum coordinators, guidance personnel, and teacher-preparing institutions in placement of students, in such administrative functions as allocation of resources, and in preparation of teachers for the new course.

The research was guided by the following objectives:

a. To evaluate the progress of students enrolled in the home economics course directed to wage earning in health care services toward specific objectives related to:

    1. knowledge and understanding of subject matter
    2. job competences
    3. attitudes toward and interest in job responsibilities and functions

b. To determine the relationship between student progress toward course objectives and student success in obtaining and holding jobs to such student characteristics as:

    1. motivation to enroll
    2. age, academic ability, socioeconomic status and other selected background factors
    3. personal qualities thought related to employability
    4. satisfactions gained from course and from the work defined by the course

c. To help provide, by means of descriptive data, answers to questions raised by secondary schools and teacher-preparing institutions regarding courses in which home economics is related to wage earning in health care services:

    1. what are the commonalities in the health care services course and the existing home economics wage earning courses?

2. what are reasonable standards for selection of students?

3. what are the supporting skills necessary in the occupations related to health care services?

4. what instructional methods and materials are useful?

5. what resources are needed for teaching and training?

6. what help may be needed from school counseling and other supportive services?

7. what are the time demands on teachers?

8. what are the problems teachers and other school personnel meet in setting up and carrying through a wage earning course in health care services?

9. what are the necessary occupational backgrounds of those who teach the course in health care services?

METHOD

The present study dealt with the evaluation of 16 pilot classes in occupational home economics which had as their focus the preparation of workers in health care services. Five programs trained girls primarily for jobs as nurses' aides; six classes prepared dietary aides; and one sample of five classes represented a course introductory to health careers. A portion of the study was concerned with the refinement and development of instruments to implement the evaluation of the 16 classes which, because of their diverse nature, were treated as three different samples.

Description of the Samples

Participants in the study--six inner city high schools, two area occupational education centers, and a Long Island high school--were selected by the New York State Bureau of Home Economics Education from a list of schools where previously interest had been shown in offering courses in occupational home economics and where teachers and administrators agreed to cooperate with the evaluation research project. Inner city schools provided the dietary aide and health careers samples, and two of the classes in the nurse's aide sample. The nurse's aide sample also included the two area occupational centers and Long Island high school.

Information on basic teaching facilities and on such student background factors as SES and units of credit in home economics was assembled. Students were asked to provide data about all types of work experience they had prior to the course whether volunteer work, work for an outside employer, or home responsibilities. Socioeconomic status was determined by assigning the chief breadwinner in the student's family a place on the NORC scale (5). Not all jobs were listed on the scale and values were arbitrarily assigned, using the scale as a guide.

Information about student intellectual capacity was not available for the entire sample of occupational home economics students; where it was available it was obtained from a variety of tests, administered at different times. Student scores on intelligence tests were therefore categorized into four groups with the first including scores below 75; the second, scores from 75-89; the third, 90-109; and the fourth, scores of 110 and above. Additional information on intellectual capacity was provided by Stanford achievement tests measuring basic abilities of reading and numerical competence (13), administered by cooperating teachers.

Dietary Aide Sample

Class One. The dietary aide class conducted in an inner city high school met for two class periods daily. Outside work experience was planned as an integral part of the course. The class was taught by a home economist with graduate work beyond the bachelor's degree and who had seven months' teaching experience prior to the course. A standard home economics foods laboratory was available for class use as needed.

The class was composed of 16 girls, 14 juniors and 2 sophomores, whose ages ranged from 16-18, with a mean of 16.6 (Table 1). Eleven girls completed the course. The class ranked fourth in reading ability when compared with the five other classes in the dietary aide sample and third in numerical competence, with one referring to the highest rank and six to the lowest. When compared with national norms student scores ranged from the 1st percentile to only the 22nd for numerical competence and the 16th for reading.

Socioeconomic status as measured by the NORC scale (5) was 48-69. Typical jobs held by parents were maintenance or construction for the men and nurse or laundry worker for the five mothers who worked. In six cases no member of the family was employed. Half of the 16 students lived with both parents; six, with mother only; and two, with another relative. Of 12 students for whom information was available all were reported by their counselors to be in good or excellent health; one student was handicapped by blindness in one eye. Nine girls had at least one unit of home economics prior to the course; the mean was 1.4 units. All students reported working at home, from two hours a week to as many as 49 hours cooking, cleaning, shopping, doing laundry, and caring for younger children; typically, students worked 10 hours a week at home. Nine girls reported that they received no allowance; six earned $2. - $15. a week for their efforts at home. Eight girls had not held jobs prior to the course, three had regular babysitting jobs, one was a dietary aide, and four were employed by the Neighborhood Youth Corps or similar organizations. Most of the girls did no volunteer work, although one babysat for neighbors on a voluntary basis and similarly did office work; one taught a Sunday School class.

Class Two. Class Two was companion to Class One, having the same teacher, course, and physical setting. There were 15 girls, 14 juniors and one sophomore, ranging in age from 15-17 with the mean at 16.0. This class ranked sixth, or last, in reading and fourth in numerical competence. All girls had at least one unit of previous work in home economics; the mean was 1.9 units. Three of the students were considered by their counselor to be handicapped by poor health. Eleven students completed the course.

Four of the girls lived with both parents, seven with mother only, three with other relatives, and one with a friend of her father's. Socioeconomic status of the families fell at 45-62 on the NORC scale; the fathers of the girls worked at such jobs as factory operator, truckdriving, or maintenance and the four working mothers were employed as domestics or nurses' aides. Three of the girls had previous work experience as dietary aide or restaurant worker; four were employed in Youth Corps or similar jobs as day camp counselors or clerks; and eight had no previous work experience. All the girls helped at home with cooking, cleaning, laundry, and shopping for 3-44 hours a week; just four girls in this class cared for small children at home but, typically, they worked the most hours. Most of the girls did not receive formal pay for their work, although four regularly received from \$3.-\$25. a week. Three girls did occasional volunteer work for community organizations or neighbors.

Class Three. A class for dietary aides similar to Classes One and Two was held at a second inner city high school, again scheduled for double periods daily and including outside work experience. The instructor had professional experience in the food service industry as well as 14 years of formal teaching experience and more than 30 credits beyond her master's degree. The class met in a combination classroom/foods laboratory.

Fifteen girls, all seniors between 16-19 years old, enrolled in the class which ranked second in the dietary aide sample both in reading ability and numerical competence. The girls had a background of at least one unit of home economics prior to enrollment, with the mean at 1.1 units; two had health handicaps. All but one of the girls who enrolled completed the course.

Fourteen of the 15 girls in the class lived with both parents whose SES, measured by the NORC scale, was 45-63. Maintenance and factory work were typical occupations of the employed fathers; two were not employed and one was retired. Four of the six working mothers were sewing machine operators in clothing factories, one was a stenographer, and one worked with the school lunch. Previous work experience for ten girls included jobs as nurse's aide, babysitter, clerk, and factory operator; five held jobs in Neighborhood Youth Corps and Headstart programs. The girls worked at home from 2-21 hours a week; typically, 12 hours. Two received regular allowances of \$1. and \$5. a week. Two girls were volunteers at school and one was a candystriper.

Class Four. In Class Four, companion to Class Three, one junior and 15 senior girls--16-19 years old--were enrolled. Not all girls in this class, which ranked first in reading ability and numerical competence, had previous work in home economics at the secondary level ($\bar{X}$ = .68 units). Two girls were handicapped by poor health. Twelve students who enrolled completed the course.

Ten students lived with both parents; six, with mother only. Representative occupations were machinist, truckdriver, or tailor for fathers and practical nurse, domestic or saleslady for five working mothers. Values on the NORC scale were 45-64. In two families no one was reported to be employed. Eleven students had held jobs prior to the course, four in Youth Corps or similar jobs and the others as countergirl, salesgirl, factory operator, or secretary. The girls helped at home 2-28 hours a week cleaning, cooking, and--less commonly--caring for younger children. Two received regular allowances of $5. and $8. Two girls did volunteer work for the school and one was a member of the "Little Sisters of the Poor" organization.

Class Five. Classes Five and Six met in a third inner city high school which offered the dietary aide program. In addition to outside work experience this program included unpaid work experience in food preparation and service for a nursery school maintained by the home economics department. Two instructors taught the course in alternate semesters; both were home economists with master's degrees. One had five years' teaching experience and the other, ten years'. The latter had, also, experience in management with a large restaurant chain.

All of the 17 girls in the class were juniors ranging in age from 15-19. They ranked third in the dietary aide sample in reading ability and fifth in numerical competence. All girls had home nursing prior to the course, with the mean for previous home economics at 1.4 units. One student was handicapped by poor health and three by reading difficulties. Fourteen girls completed the course.

Nine girls lived with both parents, seven with mother only, and one with another relative; values on the NORC scale measuring SES were 48-67. Fathers of girls in this class worked at such jobs as porter, sanitation worker, and private detective. Four mothers were employed as maid, cook, nurse; in three families no employment was reported.

Ten girls had worked prior to the course; all jobs, however, were apparently in Neighborhood Youth Corps or similar programs. Students reported helping at home for 5-42 hours a week; the usual work load was 14 hours. Two girls received regular weekly allowances of $3. and $5. Five students did volunteer work, three in school and two in hospitals.

Class Six. One sophomore and fifteen junior girls, 16-18 years old, comprised the class which ranked lowest in the diet aide sample in basic academic skills: fifth in reading comprehension and sixth in numerical competence. Students had a mean of 1.1 units of previous home economics, which included the required one-half unit of home nursing. Guidance counselors reported that three of the class were handicapped by poor health, one by reading difficulties, and three by difficult home conditions aggravated by unemployment or underemployment of the father. Father's jobs included truckdriver's helper, handyman, and salesman; three mothers worked, as domestics or factory operator; three families reported having no employed member.

Ten girls lived with both parents, three with mother only, one with another relative, and one with her godmother. Four girls had work experience prior to the course: one had a regular babysitting job, one worked for a laundry, and two held Youth Corps-type jobs. All the girls helped at home, a median of seven hours a week. Two students regularly received $5. a week and one, $10. Volunteer activities in school, Girl Scouts, and for neighbors were reported by four girls.

Table 1

Student Background, Dietary Aide Sample

	Class					
Variable	1	2	3	4	5	6
Grade:	10-11	10-11	12	11-12	11	10-11
Age:						
Range	16-18	15-17	16-19	16-19	15-19	16-18
Mean	16.6	16.0	17.2	17.3	16.5	16.5
Rank	3	6	2	1	4.5	4.5
Numerical Competence:						
Range: Raw Scores	8-21	9-20	3-27	14-25	6-20	3-19
Percentile Rank	1-22	1-20	1-36	6-28	4-20	1-18
Mean	12.7	12.1	15.3	18.9	11.2	10.5
Rank	3	4	2	1	5	6
Reading Comprehension:						
Range: Raw Scores	12-27	11-31	14-35	16-40	8-32	12-29
Percentile Rank	1-16	1-28	1-23	1-38	1-28	1-22
Mean	19.9	17.3	22.4	27.2	20.7	19.2
Rank	4	6	2	1	3	5
Home Economics Units:						
Mean	1.4	1.9	1.1	.68	1.4	1.1
Rank	2.5	1	4.5	6	2.5	4.5

Health Careers Sample

The five classes in the health careers sample were held in a single city high school, all taught by the same nurse-educator. The classes, which met in a combination foods/nursing laboratory and classroom, were made up largely of sophomores but some juniors were also enrolled, Table 2. Many of the girls, aged 14-18, had not had home economics courses at the secondary level although most had some home economics in seventh and eighth grades. Mean scores measuring basic academic skills varied among the five classes from 21.8-27.6 for reading and 14.3-18.0 for numerical competence. When compared with national norms student scores ranged from the first percentile on both tests to the 76th percentile for numerical competence and the 60th for reading. Guidance counselors were not able to supply information regarding health or handicaps. Ninety-four of 108 students completed the course.

A majority of the girls lived in families with both parents present. Socioeconomic status was closely comparable for the five classes. Fathers were construction workers, watchmen, salesmen, longshoremen, postal clerks, or similarly employed. Thirty-eight per cent of the mothers worked; representative jobs were phone operator, file clerk, domestic, factory operator, sales, and nurse. In all classes at least one family reported having no employed member.

Previous work experience was uncommon for these younger students. Youth Corps-type jobs were most often reported by the 8 of 21 girls who held jobs prior to the course. Other jobs included salesgirl, waitress, chambermaid, and door-to-door saleswoman. Most of the girls helped at home; the median varied from 5-9 hours weekly, Table 2. From 3-9 girls in each class received a regular allowance; volunteer work in school or hospitals was engaged in by few students.

Nurse Aide Sample

Class One. An inner city high school offered a nurse aide course which met for a double-period session daily. The class enrolled 18 seniors, four juniors, and one sophomore; 16 completed the course. The class had three instructors over the course of the year. The department chairman taught the class until a regular teacher could be found: a registered nurse with graduate work beyond her bachelor's degree in education and science. The nurse-educator, who had previous teaching experience in professional nursing schools, taught the course until early spring; she left the school at that time and a substitute with a background in English education met with the class for the remainder of the school year.

Table 2

Student Background, Health Careers Sample

Variable			Class		
	1	2	3	4	5
Grade:					
10	16	11	16	10	15
11	7	9	3	9	5
Age:					
Range	15-18	15-18	14-17	14-17	14-17
Mean	15.8	15.8	15.6	15.7	15.5
Numerical Competence:					
Range	10-26	2-34	8-28	9-25	11-28
Mean	18.0	14.3	17.2	17.1	17.9
Reading Ability:					
Range	10-36	12-38	14-35	1-39	11-39
Mean	23.9	21.8	24.6	22.7	27.6
Mean Units of Home Economics	.27	.43	.12	.31	.21
SES	44-69	45-69	50-69	45-69	44-69
Families Reporting No Employed Member	1	5	3	3	1
Previous Work Experience	6	1	3	7	4
Volunteer Work	0	5	2	6	8
Hours Worked at Home:					
Range	0-20	0-40	1-35	2-16	0-20
Median	6	5	9	5	5
Live With:					
Both Parents	18	14	15	12	17
Mother Only	4	6	4	4	2
Father Only	1	0	0	0	0
Other Relative	0	0	0	2	1
Mother Works	9	10	7	4	8

Supervised work experience was initially planned as part of the course and several hospitals were contacted as possible training stations; however, since those hospitals required that nurse aides be 18 years of age before employment and since nursing home positions were discounted by the nurse educator as unsuitable, outside work experience as a facet of the course was abandoned.

The class members, who were 16-19 years old, had a widely varying background of secondary home economics courses: five girls had none and one had three units of home economics ($\bar{x}$ = .73, Table 3). Stanford Achievement Test (13) raw scores for reading comprehension ranged from 0-34 and for numerical competence, 3-22. Such scores placed the class from the 1st to only the 23rd percentile for reading and from 1-20th percentile for numerical competence, when student achievement was compared with national norms.

Although the students were considered to be in good or excellent health, their counselors saw three of them as handicapped by reading disability and others by "serious emotional problems which have had attention of school programs for some time", "loss of parent when young", "little comprehension of requirements of social situation", and "apathetic--difficult to motivate to any activity."

Eleven students lived with both parents, six with mother only, two with father only, and three with other relatives. Values on the NORC scale (5) determined SES at 48-69 for those families with a breadwinner; in six families no one was reported as employed. Working fathers were porters, maintenance men, busdriver, and cook. Five working mothers held jobs as factory assembler, nurse aide, typist, clerk, and laundress. Five girls had work experience prior to the class as cashier, waitress, factory worker, and babysitters; eight held jobs in youth programs. All but two helped at home, a median of seven hours a week; six girls received regular allowances of $3.-$12. a week. Six girls enjoyed doing volunteer work in the school and one was an assistant den mother for Cub Scouts.

Class Two. The class, Home and Institutional Health Services, was jointly offered by the Board of Cooperative Education Services of two upstate New York counties. Twenty-two students--14 seniors, 6 juniors, 2 sophomores--enrolled in the class and 17 finished the course. The class met for three class periods daily. The well-equipped foods-nursing laboratory and classroom provided for in-school practice of foods and nursing skills but outside work experience was not a part of the course. The instructor had a bachelor's degree in dietetics and science and was working toward certification in home economics. She had five years' experience as a therapeutic dietician.

Most members of the class, 17-20 years old, had a strong background of home economics courses; the mean was 2.0 units (Table 3).

Table 3

Student Background, Nurse Aide Sample

Variable	Class 1	2	3	4	5
Grade:	10-12	10-12	9-12	10-12	12
Age:					
Range	16-19	17-20	15-19	15-18	16-18
Mean	17.1	18.5	16.8	16.7	17.2
Rank	3	1	4	5	2
Numerical Competence:					
Range: Raw Score	3-22	1-32	1-23	7-26	9-29
Percentile Rank	1-20	1-52	1-28	1-36	1-46
Mean	10.8	18.0	13.6	14.9	17.4
Rank	5	1	4	3	2
Reading Comprehension:					
Range: Raw Score	0-34	9-47	5-42	10-39	20-44
Percentile Rank	1-23	1-60	1-58	1-48	1-50
Mean	18.8	22.6	21.4	25.8	33.7
Rank	5	3	4	2	1
Home Economics Units:					
Mean	.73	2.0	.73	0	3.0
Rank	3.5	2	3.5	5	1

When compared with the other four classes in the nurse aide sample the class ranked first in numerical competence and third in reading ability; when compared with test norms, however, class scores ranged from the first percentile to the 52nd percentile for numerical competence and from the first to 60th percentile for reading. Guidance counselors considered the girls to be in generally good health, but noted that two were handicapped by emotional problems, and others by "inadequate home environment" and poor reading ability. Fifteen girls lived with both parents, two with mother only, one with father only, one with a foster parent, and two with other relatives; the NORC scale measured SES at 48-81. Fathers of six girls in the class worked as truckdrivers; others were janitor, mechanic, gardener, farmer, and guidance counselor. The seven working mothers were nurse aides, factory operators, store manager, cook, and domestic. Twelve students had work experience prior to the course: six as babysitters, three as waitresses, one as domestic help, and two in Head Start or similar government-sponsored programs. Four girls were candystripers in local hospitals, one was a library volunteer, one was member of a Ladies Auxilliary for Firemen, and three helped neighbors. The girls worked at home from 5-40 hours a week; in addition to the more usual duties three helped with farm work and one cared for a sick parent. Four received regular allowances of from $1.-$20.

Class Three. The second area occupational school in the nurse aide sample, located in western New York, offered a course titled, "Home and Institutional Attendant." The class met for three periods daily. Of the 19 students who enrolled in the course 13 completed it. The class was composed of three seniors, seven juniors, five freshmen, and two unclassified students; ages were 15-19. The students used the school's practical nursing classroom and clinical laboratory facilities. A special feature of the course was unpaid, supervised work experience one-half day each week at a nearby hospital. A registered nurse supervised the hospital training segment of the course; the regular instructor had graduate work beyond the bachelor's degree in home economics education and, also, one and one-half years of nurse's training. A third member of the teaching team for this class was an instructor in the occupational school's practical nurse program, who instructed the class in nursing skills.

The class ranked fourth in both numerical competence and reading ability when compared with the other classes in the nurse aide sample. Such scores on the tests of basic academic ability placed the class in the first to 28th percentile for numerical competence and first to 58th percentile for reading. Guidance counselors reported that four students had only fair health; two others were in special education classes in their home schools. Not all students in the class had previous work in home economics; the mean was .73 units. Most of the girls lived in families with both parents present, two lived with fathers only, and one with grandparents. Jobs most commonly held by fathers were truckdriver and factory worker; one was a physician and another, a typesetter. Four mothers worked, as bookkeeper, secretary, factory operator, and nurse's aide. Socioeconomic status was placed by the NORC scale at 48-81.

Seven girls had work experience prior to the course as babysitters, two had cared for aged women. Home responsibilities accounted for 2-46 hours a week of the girls' time, with a median of seven hours. Ten girls received regular allowances of $1.-$10. a week. Volunteer work was uncommon in the class; one girl helped at school.

Class Four. The nurse aide course taught in an inner city high school met for one period daily. Twenty-five students enrolled in the class and 12 completed the program. Of the 25 students 1 was a senior, 22 were juniors, and 2 were sophomores. The instructor held a bachelor's degree in nursing; she had not had previous teaching experience. There was no outside-of-school supervised work experience. The program had limited facilities.

The class, aged 15-18, ranked second in the nurse aide sample in reading comprehension and third in numerical competence; according to test norms scores fell in the 1-36th percentile for numerical competence and 1-48th percentile for reading. All the girls were reported by their counselors to be in good health; none had a background of secondary home economics courses. Nine girls lived with both parents, 13 with mother only, and 3 with other relatives. Fathers were city inspectors, bartenders, in construction, or similarly employed. Nine mothers were working; three as nurses, two in laundries, and others in factory, office, or private home. In six families no one was reported to be employed. Six girls in the class had had work experience prior to the course in youth programs; two were clerk-typists and two others had been mother's helpers; and one each had worked in a factory, beauty shop, and father's auto shop. The girls helped at home a median of six hours a week; three were Red Cross aides in hospitals and homes for the aged and three were volunteers at church or in school.

Class Five. Eighteen seniors, all of whom had previously completed at least one and one-half units of secondary home economics, enrolled in and completed the health services course at a Long Island high school. The class met for one class period daily. The instructor held a bachelor's degree in home economics and science and had 45 graduate hours in education and home economics. In addition to six years' teaching experience she had experience as a hospital dietician and in a business office. The school nurse assisted in the teaching of nursing skills and the department chairman lent strong support. The location of a State hospital in the area prompted the active advisory committee to recommend that part of the program be directed to the training of recreational, occupational, and physical therapy aides. In addition to these jobs the course trained for nurse aide, medical supply clerk, diet aide, and home health aide occupations. The class was held in a room especially designed for teaching home economics occupational courses; the large area contained well-equipped kitchen and hospital units.

The class of 16-18 year olds ranked second in numerical competence and first in reading ability when compared with the other four classes in the nurse aide sample. Even so, their scores placed these students only as high as the 46th percentile in numerical competence and the 50th in reading, according to test norms. Less able students in the class fell in the 1st and 4th percentiles in these two basic academic abilities. All but two of the girls in the class were reported by their guidance counselors to be in good or excellent health. Fifteen girls lived with both parents, two with mother only, and one with another relative. Fathers worked as shop steward, chauffer, construction supervisor, factory assembler; three mothers worked as typist, factory operator, and waitress. Eight of the girls had work experience prior to the course: factory assembler, beautician, countergirl, regular babysitter. The girls helped at home from 5-42 hours a week; the median was 10 hours. Four received regular allowances of $1.-$5.

Description of Courses

Although all the classes in the total sample trained girls for health services jobs there was considerable variation in the courses. Teachers of the dietary aide classes helped write--as the pilot studies progressed--a city curriculum which closely resembled the State-recommended curriculum in that orientation to work and management were included as well as occupational skills. The class taught in a Long Island high school, included in the nurse aide sample in the present study, both followed the State curriculum guide and trained for a cluster of health services jobs. The dietary aide and Long Island classes also emphasized work experience for outside employers as an integral part of the course.

The nurse aide classes taught in the inner city high schools and, also, those taught in area occupational centers were mostly skill-oriented, with varying emphases on management and orientation to work. The health careers classes, aimed at helping tenth grade students explore a wide variety of possible health services jobs, included nursing skills, health education, and nutrition. Students in the nurse aide and health careers classes (with the exception of the Long Island class) had little opportunity for outside work experience. One Upstate area occupational center, however, provided unpaid work experience one-half day a week in a nearby hospital.

Collection of Data

Scores from attitude scales, questionnaires, descriptive rating scales, and an achievement test contributed to the measurement of course effectiveness. The instruments were administered at the beginning and at the end of the course with the exception that only post-ratings on the descriptive rating scales were available for the health careers sample. Additionally, student background information was collected at the beginning of the courses and all students were interviewed at their conclusion; data were collected also in a six-month follow-up study. Instruments which required student responses were:

1. Personal Data Sheet--a questionnaire designed to obtain information pertaining to family background, previous employment, and home responsibilities.

2. Attitudes Toward Work scale--a 49-item Likert-type scale of students' attitudes toward the world of work.

3. Student Questionnaire--a composite of questions which supplied information concerning factors thought to be associated with motivation for enrollment in an occupational home economics class: attitudes toward home economics, self-concept and five Guttman scales--Self-Confidence, Expectations from the Course, Interest in Occupational Training, Attitude Toward School, and Attitude Toward Working with Others.

4. Married Women Working--a questionnaire developed to indicate student attitudes toward women working during the various stages of the family life cycle.

5. Achievement Test: Preparation for Employment in Health Services. Two versions were prepared; one, directed to the nurse aide and health careers samples, was a 64-item multiple choice test designed to measure students' knowledge and comprehension of concepts of health service and the working world. A similar 51-item test included many common items but applied specifically to dietary aides.

6. Attitudes Toward Health Services Jobs scale--a 54-item Likert-type scale assessing attitudes toward meeting patients' psychological and physical needs, cooperating with the medical team, and rewards of health services jobs.

7. Interview Schedule--interviews by members of the project staff were held in private to determine student attitudes toward the course at its completion and to solicit suggestions for making the course a more meaningful experience.

A series of descriptive rating scales to measure general qualities related to employability and a scale to measure specific occupational skill as nurse aide or dietary aide were administered early in the course and again at the end of the year's instruction. A teacher rating and student self-rating were required at each administration. Additional information from participating teachers was assembled from a series of instruments: a questionnaire, Teacher Attitude Toward Course; forms for recording teaching time demands both prior to and during the course; information regarding educational and occupational background and experience; financing; rating and description of instructional materials used; weekly lesson plans; end-of-year evaluations of the programs; reports of student work experience during the course; and information about student selection. Guidance counselors also supplied information regarding student placement in the new classes and background data.

At the conclusion of the occupational course students were followed into their summer or permanent jobs by means of a series of double postcards which asked for job information. The follow-up of students who returned to school was terminated September 1 with the mailing of a questionnaire and a job satisfaction rating scale, "My Job", to the student and a letter and descriptive rating scale to her employer. Girls who graduated or otherwise left school were followed until December first. Copies of new instruments developed for the present study appear in the Appendix; others appear in an earlier report (10).

In addition to visits to the programs in the fall and spring by the project leader and staff to collect pretest and posttest data, visits were made midway through the programs to observe classes, answer teachers' questions, and interpret evaluation instruments. A conference of teachers, research staff and New York State Bureau of Home Economics Education personnel was held in Albany in the spring, which provided an opportunity for teachers to ask questions, review progress, and compare resource materials with others.

Development of Instruments

A number of instruments were used to measure progress toward objectives of the study. Some evaluation instruments used in the current study were developed in earlier research projects carried out by the Department of Home Economics Education: the Linton study (2), a pilot study in occupational home economics (7), and the evaluation of 12 secondary school occupational home economics programs (10).

The previously developed measures used in the study were:

a. Attitudes Toward Work scale.

b. Four descriptive rating scales of a general nature which are applicable to many entry-level jobs: Becoming Employable, Management, Safety, and Sanitation.

c. Descriptive rating scale for measuring competence in a specific skill, Dietary Aide.

d. Married Women Working.

e. Student Questionnaire.

f. Personal Data Sheet.

g. Descriptive rating scales used in follow-up study: Employer's Rating of Trainee in Home Economics Occupational Education and rating of job satisfaction by the employee, "My Job."

h. Food Service Facilities Questionnaire (Dietary Aide sample only).

i. Questionnaires and data sheets for collecting student background information from guidance counselors.

j. Forms for teacher records and reports.

Instruments developed expressly to meet objectives of the present study were:

a. Descriptive rating scale to measure a specific skill: Nurse's Aide.

b. Attitude Toward Health Services Jobs scale.

c. Achievement tests.

d. Health Services Facilities Questionnaire.

The interview schedule used in previous studies was revised and amplified for use in the present study; the Sanitation and Safety descriptive rating scales were similarly revised for use with the Nurse's Aide sample.

Attitude Toward Health Services Jobs Scale

The development of the Attitude Toward Health Services Jobs scale involved three major steps:

a. An open-end questionnaire assessing young people's attitudes toward health services jobs was administered to 36 boys and girls comparable in age to students in the present study.

b. A Likert-type scale made up of 118 direct quotations from student responses to the open-end questionnaire was pretested on a sample of 71 boys and girls enrolled in vocational courses.

c. An 88-item scale was administered at the beginning of the course to all students in the present study; a shorter version was used at the conclusion of the occupational programs.

Achievement Tests

Two achievement tests were developed for the study, one to measure progress toward cognitive objectives of the health careers and nurse aide samples and one appropriate for the dietary aide sample. Both tests measure at three levels--recall, understanding, and application—the major concepts of orientation to work, management for effective living at home and on the job, and competences required for entry level jobs. Items relating to dietary aide competences test conception of elementary nutrition and diet therapy, basic food service procedures, sanitation, safety, and storage of food and equipment; items relating to nurse aide competences are also concerned with nutrition and diet therapy in addition to first aid, basic nursing procedures, preventive medicine and rehabilitation.

Nurse's Aide Descriptive Rating Scale

A descriptive rating scale was designed to evaluate specific competences taught by the nurse aide course: meeting routine needs of the patient, communications and clerical activities, and maintaining the patient's environment. This specific scale was designed to supplement four general scales developed for previous research: Becoming Employable, Management, Safety, and Sanitation. The last two general scales were adapted for use with the nurse aide and health careers samples; the original versions of the two scales were used with the dietary aide sample.

All rating scales have five intervals. Three levels of performance are described in detail. Level one describes employee or student behavior that represents unacceptable performance. Level three describes adequate performance so that the student is minimally employable. Level five describes excellent performance on the entry-level job. Level two and four are not spelled out but provide additional intervals for rating the student-employee. An effort was made to keep rating scales simple and short for ease of use; however, for purposes of evaluation enough detail was supplied to enhance discrimination and yield reliable scores.

Health Services Facilities Questionnaire

A checklist of facilities desirable for training health service aides was assembled to provide a simple comparison of facilities and equipment available to teachers participating in the study and to serve as a guide for schools desiring to introduce similar programs. Teacher ratings of facilities and equipment are included in the Teacher Reports section.

Determining Quality of the Instruments

Validity

Content validity of the instruments was established through interviews with New York State Employment Service and health services personnel and a review of training manuals, the basic attendant course of study used at a large State hospital, and other relevant literature. A panel of six experts served as consultants in the development of the Attitude Toward Health Services scale. The panel was comprised of a clinical instructor and the chief of nursing services and training at a State hospital, the project director of Sloan Institute of Hospital Administration at Cornell University, a clinical instructor and the director of a school of practical nursing, and the administrator of a city hospital. The nurse aide rating scale was submitted to the three members of the panel most closely associated with training of entry level workers for comment and approval, as were achievement test items related to health services competences.

In the case of the Attitude Toward Health Services scale the panel was asked to rate the 121 statements on the tentative scale as "Very Important, Important, or Not Relevant" and to indicate whether they regarded the statement as a positive or negative attitude for students being trained for health services jobs. A copy of the instrument coded by the panel and a summary of their judgments appears in the Appendix.

The fact that statements on the Attitude Toward Health Services scale are direct quotations from an open-end questionnaire administered to secondary students comparable to those in the present study, and thus representing their ideas and vocabulary, also contributes to the validity of the instrument.

Tables of specifications based on the review of literature and interviews with health service personnel served as a guide for the Attitude Toward Health Services Jobs scale and the achievement tests. The tables of specifications appear in the Appendix with the instruments.

Reliability

Item Analyses. Item analyses of instruments were made, when appropriate, to determine the ability of the items to differentiate between students who achieved high scores on the measuring instruments and those whose scores were low, with the cutoff point for the upper and lower groups set at 27% of the total. In the case of the achievement tests the Ahmann and Glock (1) formula was used. The formula was adapted (see Appendix) for situations where each item had a maximum value greater than one, as in the nurse aide descriptive rating scale. Edwards' t (4) was used for item analysis of the Attitude Toward Health Services Jobs scale.

The level of difficulty of items on the two achievement tests was also determined (1). Information regarding both item discrimination and level of difficulty is included with the instruments in the Appendix.

Achievement Tests. Items relating to health service competencies in the achievement test, Preparation for Employment in Health Services, were pretested before use in the present study on 72 students comparable in age and academic background to the current sample. Items having low discrimination indices were discarded or rewritten as dictated by the requirements of the table of specifications (Appendix). Test reliability was determined by means of the Kuder-Richardson procedure.

Attitude Toward Health Services Jobs Scale. The scale was pretested with a sample of 71 boys and girls enrolled in vocational education courses. Two item analyses were made; one on the sample of 71 boys and girls and the second, on the basis of the first administration of the scale to 276 students in the present study. Further reliability of the instrument was determined by means of the split-halves technique.

Nurse Aide Descriptive Rating Scale. The Nurse's Aide descriptive rating scale was subjected to an inter-rater reliability examination at a nearby State hospital. Four hospital supervisors assessed four employees simultaneously and independently. The reliability of the measurements of the four judges rating each member of the group of four employees on each specific characteristic of the scale was tested by analysis of variance since a difference in estimates of variance reflected measurement error. Winer (18) gives a method of deriving such a coefficient of reliability from analysis of variance (14).

Statistical Analysis to Determine Interrelatedness of Variables

In addition to the analyses necessary to determine quality of the measuring instruments two major analyses of data were made in the study. One involved the compilation of an index of student success in individual occupational classes and correlation of each index with relevant variables. The second was concerned with correlation of student scores for each of the three samples with selected Vs.

Compilation of Index of Success in Occupational Home Economics

An index of student success in classes in occupational home economics was developed for use in earlier research projects (7, 10) and was compiled from scores on the Attitudes Toward Work scale, achievement test, and rating scale scores appropriate for the individual course. The score on Attitudes Toward Health Services Jobs scale was included in the index for the present study. All scores for the index were post-scores; teacher ratings were used for the scores on the descriptive rating scales. In all cases the four general scales--Becoming Employable, Safety, Management, and Sanitation--were used. The index for the nurse aide sample includes also the post-score on the Nurse Aide descriptive rating scale and the index for the dietary aide sample, the Dietary Aide post-rating. The health careers course did not stress specific occupational skills; therefore post-ratings on the four general scales suffice.

Index scores were related to several Vs using rank correlations--a non-parametric statistic deemed appropriate to the nature of the data and the size of individual classes. Variables included total hours of supervised work experience, academic achievement, SES, and subsection scores on the Student Questionnaire.

Correlation Matrices

A correlation matrix for each of the three samples was computed for student pre- and posttest scores and selected Vs, employing an adaptation of the CORMA program available at the Cornell Computing Center. Product-moment correlation coefficients were computed for every possible pairing of Vs which included teacher ratings and self-ratings on descriptive rating scales, student characteristics, type and amount of work experience, follow-up data, and girls' expectations of working during various stages of the family life cycle. A list of Vs used in each matrix is found in the Appendix.

RESULTS: QUALITY OF INSTRUMENTS

Instruments required for evaluation of the experimental classes in home economics occupational education were clearly indicated by the objectives of the research study. To meet a major objective related to knowledge, job competences, and attitudes toward work instruments used in a previous study (10) were supplemented by the development of an Attitudes Toward Health Services Jobs scale and an achievement test, Preparation for Employment in Health Services.

A second major objective was the determination of the relationship between 1) student progress in the course and 2) student success in the working world to such characteristics as motivation for enrollment, age, academic ability, SES, and student satisfaction with the course. For this objective previously developed instruments were used as well as Stanford achievement tests for Reading and Numerical Competence (13), data supplied by guidance counselors, and a revised interview schedule.

The third major objective undertook the provision, by means of descriptive data, of answers to questions pertinent to occupational home economics which have been raised by secondary school personnel and university teacher-educators. A new checklist, Health Services Facilities, and other record forms for teachers and guidance counselors were developed or revised. Observation of classes by members of the project team also contributed to the achievement of the objective.

Attitudes Toward Health Services Jobs Scale

Content validity of the Attitudes Toward Health Services Jobs scale was based on a review of relevant literature, interviews with employers and instructors of health services personnel, an open-end questionnaire which sought student vocabulary and frame of reference, and consultation with a distinguished panel of experts. Specific procedures are outlined in the preceding section.

Reliability of the instrument was established through item analyses and the use of the split-halves technique. Values of Edwards' t (4) ranged from 2.41 - 12.57 for the final 54-item version of the scale. Values of this magnitude indicate that responses of high and low groups differed significantly ($< .05$) from each other for samples of the size used. Results of the item analyses are found with copies of the instrument in the Appendix. The instrument had a split-half reliability coefficient of .93 when adjusted according to the Spearman Brown formula.

Achievement Test: Preparation for Employment in Health Services

Content validity of the two versions of the achievement test--one directed to the nurse aide and health careers samples and one to dietary aides--was based on a literature review and interviews, and on tables of specifications meeting the cognitive objectives of the course (see Appendix). Three members of the panel of experts advised regarding the relevance and adequacy of items measuring health services competences. Test items related to adjustment to the working world and management for effective living at home and on the job, two major units of the courses (16), were drawn from a pool of tested items from earlier research. New items were pretested on a sample of vocational students similar to those participating in the present study. Results of the pretest item analysis and of an analysis of tests to which students responded at the spring posttesting appear with the instruments in the Appendix. Forty-five items of the 64-item achievement test for health services aides had acceptable indices of discrimination of .22-.59 for the second administration of the test to the health careers and nurse aide samples. Fourteen items had adequate pretest D-values but did not reach desirable levels of discrimination in the second analysis. Five items were known to have a low level of discrimination but were included in the test to meet the demands of the table of specifications.

Thirty-four of 51 items in the dietary aide version of the achievement test had acceptable D-values; values for 11 items were adequate in pretests but not in the second administration to the dietary aide sample in the present study; and 6 items did not reach acceptable levels in either pretests or when used in the present study. Fifty-one achievement test items were found to be of middle difficulty for the health careers and nurse aide samples and 13 items were too difficult to contribute to test reliability (3). In the dietary aide version of the achievement test 44 of the 51 items were of middle difficulty and 7 items overly-difficult.

Test reliability, as determined by the Kuder-Richardson procedure, was .75 for the nurse aide version of the test and .71 for the dietary aide form.

Nurse's Aide Descriptive Rating Scale

Content validity of the Nurse's Aide descriptive rating scale was similarly based on a search of appropriate literature, interviews, and consultation with those members of the panel of experts who trained entry-level health services workers.

Reliability of the instrument was determined through item analysis and Winer's technique using analysis of variance (18). Discrimination values of individual dimensions of the rating scale were calculated for teacher post-ratings of the students. All but one item reached acceptable levels of discrimination; D-values for each item appear with a copy of the instrument in the Appendix. Reliability of the instrument was established as .81.

RESULTS: COURSE EFFECTIVENESS

Index of Success

A major objective of the evaluation of occupational home economics classes in health services was to determine the relationship between course effectiveness and a number of Vs, among which were selected student characteristics, amount of supervised work experience, motivation for enrollment, and success in obtaining jobs. The appropriateness of combining independent rankings on the index, as described in the methodology section, was determined by calculating Kendall's concordance coefficient, W. Values of W were sufficiently high to reach a significance level of .001 in ten of 16 classes and .01 in five, Table 4. In one instance, Class Two of the nurse aide sample, agreement of the various ranks reached only the .20 level; no individual analysis based on the index was made for this class.

Table 4

Values of Concordance Coefficient, W, for Indices of Success

Class	W	Significance	n
Dietary Aide Sample:			
1	.74	.001	11
2	.39	.01	11
3	.41	.001	14
4	.53	.001	12
5	.38	.01	14
6	.44	.001	13
Health Careers Sample:			
1	.41	.001	23
2	.59	.001	20
3	.38	.01	20
4	.40	.001	20
5	.30	.01	17
Nurse's Aide Sample:			
1	.43	.001	17
2	.17	.20	17
3	.40	.001	13
4	.31	.01	12
5	.47	.001	18

Relationships Between Indices, Student Characteristics, and Work Experience

Ranks on the indices of student success were compared with ranks on such measurable characteristics as academic ability, SES, total amount of supervised work experience, units of vocational education, and the following subsections of the Student Questionnaire which were thought to be motivating factors for enrollment in an occupational education course: attitudes toward home economics, occupational training, school, working with others, self-confidence, concept of self in the world of work, and expectations from the course. Significance levels of the Spearman rank correlations were determined according to Siegel; when ties in ranks occurred a correction factor was introduced (12).

Table 5 shows the Vs associated with the indices of success for individual schools. The Vs found most often to be associated with student success in occupational home economics were evidences of academic ability and achievement--ranks on Stanford tests of basic abilities and current and cumulative grade point averages (GPAs); positive attitudes toward home economics; and self-concept. Total work experience and positive attitudes toward working with others were important in three classes each. Low expectations from the course in two classes and lack of interest in occupational training (three classes) did not deter some students from achieving high ranks on the indices.

Information regarding individual schools is reported in a section which follows.

Difference Between Pretest and Posttest Scores

A measure of course effectiveness was provided by determining the significance of difference between pretest and posttest scores on each of the following instruments: achievement test, Married Women Working, Attitudes Toward Work, subscores of Student Questionnaire, and both student self-ratings and teacher ratings on the descriptive rating scales. Pre- and posttest scores on the instruments were compared using a non-parametric statistic, the Wilcoxon signed ranks test (12). Tables 6 and 7 summarize changes in pretest and posttest scores for the 16 classes in the total sample. Only changes significant at .10 and higher are reported; blank spaces can be assumed to represent non-significant findings.

Significant positive changes in pretest and posttest scores were found for seven classes each on the Attitudes Toward Work and Interest in Occupational Training scales. Achievement test scores rose significantly in six classes representing all three samples. Self-concept

Table 5

Rank Correlations: Index and Selected Variables

Class	R	NC	Cum GPA	Crnt GPA	WE	IOT II	AHE II	CofS II	S-C II	EFC II	AWO II
D Aide											
1		.63*									
2						-.73*			-.68*		
3	.55*				.50*						
4			.58*	.57*			.60*	.73**			
5	.59*				.57*				-.46*		
6		.64*	.74**	.71**						-.57*	
H Careers											
1							.51*				
2	.53*		.48*	.64**		-.72**	.57**		.50*		.43*
3	.54*						.50*	.59**			
4		.53*		.51*		-.50*	.54*	.62*			
5			.43*	.47*			.47*	.56*			
N Aide											
1	.56*	.64*		.57*						-.47*	.44*
3								.74**			.61*
4	.76**						.55*				
5	.43*			.69**	.40*						

**Significant at .01; *Significant at .05.

Key: R = Reading Ability
NC = Numerical Competence
Cum. GPA = Cumulative Grade Point Average
Crnt. GPA = Current Grade Point Average
WE = Work Experience

Key:
IOT = Interest in Occupational Training
AHE = Attitudes Toward Home Economics
C of S = Concept of Self in World of Work
S-C = Self-Confidence
EFC = Expectations from the Course
AWO = Attitude Toward Working with Others
II = Posttest Score

rose in four classes and declined in one. Attitudes Toward Health Services Jobs and Attitudes Toward School scores tended to decline rather than rise; changes in attitudes toward married women working presented a mixed picture. Attitudes Toward Home Economics changed positively in three classes, all in the health careers sample.

Student self-ratings on the Management and Dietary Aide descriptive rating scales rose significantly in all six classes in the dietary aide sample. Students in the nurse aide sample tended more often to rate themselves significantly higher on the Becoming Employable scale at the conclusion of the course than they had at the beginning. Changes in teacher ratings were generally in a positive direction but ratings declined in two classes, one on the Becoming Employable scale and the other on the Sanitation scale. Pre- and post-ratings could not be compared for the health careers sample since ratings were made just once during the school year.

Student Interviews

Two key questions on the interview schedule asked for the student's assessment of her class--the features she found most helpful in her experimental course and suggestions for making the new programs even more meaningful. The girls liked best to practice nursing and food preparation and serving skills, especially when such skills could be performed in a realistic situation such as the nursery school for two classes and in a nearby hospital for another. Students found class discussions of interest in all 16 classes and listed among the most helpful features of their courses orientation to work, leads to jobs, making friends and learning to work with others, help received from the teacher in solving personal problems, and opportunity to become better acquainted with themselves and their abilities. Outside work experience was mentioned often as a favorite part of the course when girls had an opportunity for such experience and was suggested by many students as a possible improvement in the course when outside work experience had not been an integral part of the program. Other suggestions for improvement included more activity and practice in class, work experience earlier in the school year, and in some classes girls thought the academic work could be more advanced. In general the students expressed much satisfaction with the courses as offered.

Most of the girls had previous work in home economics at the secondary level prior to enrollment in the new programs, which they valued as a background for occupational home economics. Many students felt adequately prepared, at the time of the interviews, for entry-level jobs as dietary or nurse's aides. Girls were asked whether they thought they had gained sufficient training, if they followed the common pattern of leaving the labor market to raise families, to return to health services jobs at some later period in their lives. Many girls said they felt competent to handle entry-level jobs at any

Table 6

Significant Changes in Pretest and Posttest Scores

Class	MWW	Ach T	ATW	S-C	AWO	EFC	IOT	ATS	AHSJ	CofS	AHE
D Aide											
1		.05							-.01		
2								-.06	-.02		
3		.01	.01	.07	.02					.01	
4			.05								
5	-.01				.05						
6	-.03							.03			
H Careers											
1			.03	.04	-.01		.01			.06	
2	.03		.04				.01	-.06			.01
3						-.05	.01	-.06	.01		
4						.05	.01	-.08			.04
5	.01	.06					.01				.01
N Aide											
1									-.10		
2	.06	.01	.07				.07			-.03	
3		.01	.02							.01	
4			-.02	-.05				.02	-.01		
5		.02	.04		.10		.02	-.08		.01	

Key: MWW = Married Women Working
Ach T = Achievement Test: Preparation for Employment in Health Services
ATW = Attitudes Toward Work
S-C = Self-Confidence
AWO = Attitudes Toward Working with Others
EFC = Expectations from the Course
IOT = Interest in Occupational Training
ATS = Attitudes Toward School
AHSJ = Attitudes Toward Health Services Jobs
C of S = Concept of Self in the World of Work
AHE = Attitude Toward Home Economics

Table 7

Significant Changes in Pre-Ratings and Post-Ratings

	Teacher Ratings					Student Self-Ratings				
Class	BE	MGT	SFTY	SNTN	SP	BE	MGT	SFTY	SNTN	SP
D Aide										
1							.05	X	X	.02
2					.10	.06	.06	X	X	.03
3	-.08	.03	.02	.01		.03	.04			.01
4						.01	.01	.01		.01
5	.04	.01	.07	.01	.01		.01	.01		.01
6				.03	.02	.02	.08			.01
N Aide										
1		X	X	X	X	X	X	X	X	X
2	.01	.01	.01	.01	.01	.01	.09			
3		.01								
4			.03	-.01		.07				
5	.01	.01	.01	.01	.01	.01	.01	.08		

Key: X = Not Available
BE = Becoming Employable
MGT = Management
SFTY = Safety
SNTN = Sanitation
SP = Specific Scale: Nurse Aide or Dietary Aide

period of their lives; others, who had not had outside work experience, said they would need more training before taking jobs.

Work Experience

Teachers in the dietary aide sample were highly successful in obtaining extensive outside, related work experience for their students; success was less even in the nurse aide sample; and supervised work experience was non-existent in the health careers sample by design. Many students in the total sample had little or no work experience before enrollment and others held Neighborhood Youth Corps or similar government-sponsored jobs either prior to or during the course. Teachers in the dietary aide sample helped their students move into jobs in private industry, which the girls preferred. Two nurse aide classes were held in area occupational centers where teachers had heavy teaching schedules and guidance counselors were expected to assume responsibility for helping girls secure jobs. In spite of the large number of seniors in one class little help in securing employment seemed to be forthcoming either during the course or the follow-up period. Teachers in the nurse aide sample whose classes met in inner city schools found that nurse aides were required to be 18 years old before employment, at least in the relatively few hospitals they contacted. The Long Island school program was more flexible because students were trained for a cluster of health services jobs which included dietary aide and nurse's aide as well as other competences. The Long Island class was the only one of the nurse aide sample which had a strong work experience program. Teacher reports for the total sample indicated that most of the working students were earning at least the minimum wage by the conclusion of the course; few earned the minimum wage prior to enrollment.

Follow-Up Study

The follow-up study ended at the close of summer for those students who continued in school another year and therefore sought only temporary or part-time jobs. The follow-up continued until December first for students who graduated or otherwise left school and who looked for more permanent jobs. Responses were received from 206 of 249 students who completed occupational education courses, Table 8. One hundred and twenty students held jobs during the follow-up period of the study; 38 did not seek jobs because they were needed at home, underage, on vacation, or had moved to new areas where they were not yet established. Forty-eight trainees, mostly in the health careers and nurse aide samples, looked for jobs but were unable to find them. Just one of the girls who responded to one or more of the follow-up

Table 8

Follow-Up Study: Total Sample

Class	Held Job	Could Not Get Job	Did Not Plan To Work	No Response	Further Education	Total n
D Aide						
1	6		4	1		11
2	6	3		2		11
3	12	1		1		14
4	9	1	1	1		12
5	11	1	2			14
6	12	1		1		14
H Careers						
1	3	6	5	8		22
2	5	5	4	6		20
3	5	2	5	5		17
4	9	2	4	3		18
5	7	8	3	1		19
N Aide						
1	7	2		8		17
2	8	6	2	1		17
3	2	6	4		1	13
4	5	2	3	2		12
5	13	2	1	2		18
Total n	120	48	38	42	1	249

communications went on for further education, to a business school. More detailed information about individual classes is included in a section which follows.

Employer ratings on the descriptive rating scale were received for 27 senior students in the total sample, Table 9. Employer ratings for seniors, which included two ratings from supervisors in government-sponsored programs, ranged from 2.36 for a discount store salesgirl to 5.00 for a supermarket checker. Ratings of from 1.00 to 5.00 are possible on the descriptive rating scales. A score of 3.00 is intended to represent minimum employability and a score of 5.00 an optimum for an entry-level job. The assumption is that a worker earning a rating of 5.00 is ready for promotion to a more responsible position. Scores below 3.00 represent undesirable levels of job performance. Job satisfaction scales, the "My Job" descriptive rating scales, were returned by 35 seniors who rated their jobs from 2.82 - 5.00 with a mean of 4.08, Table 9.

Employer ratings for 34 juniors ranged from 2.73 for a dietary aide to 5.00 for a Youth Corps worker; eight ratings received for junior students were for government sponsored jobs. The mean employer's rating for juniors was 4.06, well above the minimum standard. The mean rating of 46 juniors on the job satisfaction scale was 4.02.

Employer ratings were received for ten sophomores, half of whom were employed in Youth Corps-type jobs. Ratings ranged from 2.73 for a typist to 4.50 for a clerical aide in the "Youth in Action" program, with the mean at 3.81. Twenty sophomores rated their jobs at 2.39 for a clerical job to 4.65 for a Youth Corps job.

All but one of the respondents to follow-up questionnaires said they liked their jobs; forty students, however, listed problems on the job. One problem looming large was the part-time nature of many dietary aide jobs when the girls wanted to work full-time. Other problems were working on weekends, boring office work, low pay, transportation, late hours and short lunch period. Rarely did the girls mention having trouble getting along with supervisors or co-workers. Table 10 summarizes additional follow-up information. The range of hours worked weekly is under question because of the tendency for respondents to confuse the request for number of hours worked weekly with the hours they worked each day. Sometimes the error was corrected in subsequent follow-up communications; material is reported here, however, exactly as received. The median hours worked is a more stable measure and reflects the fact that many jobs were, indeed, part-time.

Inspection of Table 10 shows that the classes having strong work experience programs as part of their course, the six dietary aide classes and Class Five of the nurse aide sample, had more students working and either a higher median wage or fuller work week.

Table 9

Results: Follow-Up Descriptive Rating Scales

	Employer Ratings		
Class	Range	Mean	n
Seniors	2.36-5.00	3.90	27
Juniors	2.73-5.00	4.06	34
Sophomores	2.73-4.50	3.81	10
Total			71

	Student's Job Satisfaction		
Class	Range	Mean	n
Seniors	2.82-5.00	4.08	35
Juniors	2.65-5.00	4.02	46
Sophomores	2.39-4.65	3.83	20
Total			101

Table 10

Follow-Up Study: Job Information

	Wage		Hrs. Weekly					
Class	Range	Mdn	Range	Mdn	n	Liked Job	Prob-lems	Com-pleted Course
D Aide								
1	1.25-1.89	1.75	4-40	22	6	6	1	11
2	1.50-1.97	1.50	15-36	30	5	5	0	11
3	1.30-2.50	1.91	7-40	35.5	12	12	2	14
4	1.60-2.00	1.75	8-40	35	9	9	5	12
5	1.25-1.89	1.50	15-50	20	12	12	5	14
6	1.50-2.25	1.50	5-40	15	11	11	4	14
H Careers								
1	1.50	1.50	8-40	25	3	3	1	22
2	1.50-2.10	1.50	2-40	30	5	5	0	20
3	1.50-2.00	1.50	30-40	30	5	5	1	17
4	1.25-1.80	1.50	6-40	30	9	8	6	18
5	1.15-1.50	1.50	6-40	30	7	7	3	19
N Aide								
1	1.25-1.78	1.50	3-40	30	7	7	4	17
2	.98-1.65	1.50	7-56	15	7	7	2	17
3	1.50-1.55	1.53	32-40	36	2	2	1	13
4	1.50-2.64	1.50	15-40	30	5	5	1	12
5	1.45-2.00	1.50	20-48	40	13	13	4	18
								249

Dropouts

Of 313 girls enrolled in 16 occupational classes which made up the total sample for the present study 64 failed to complete the prescribed course. Counselors for the nurse aide sample reported that girls left school because they were needed at home, to go to work, had poor academic marks, pregnancy and/or marriage, or--in the case of an area occupational center--were encouraged by home schools to leave. Some students, who were disruptive, were transferred to other schools within the large city system. In the two inner city nurse aide classes teachers recognized that a number of students had potential for becoming professional nurses and persuaded students to enroll in courses needed for entrance to nursing schools. Transferring to prenursing programs required usually that the girls remain in school an additional semester or year. Because the two teachers were able to encourage students to higher aspirations, Classes One and Four of the nurse aide sample appear to have an excessive dropout rate.

Guidance counselors for the health careers sample reported that girls left class because they did not like the occupational area, had low marks, were disruptive, or did not find the class challenging. Few girls left school altogether because the health careers sample in general had not yet reached the legal age for leaving; a few of the older girls dropped out because of low marks.

Counselors for the dietary aide sample reported that students left school because of pregnancy and/or marriage or because they were needed at home. Students remained in school but dropped the class because of heavy schedules, transfer to other schools, or dislike for the occupational area.

Twenty-four of the 64 students who did not complete the course answered follow-up cards or letters. Five of the 24 students had jobs in Youth Corps or Headstart programs; eight were not working; and seven were working part-time, whether by choice or circumstance is not known. Four of the respondents held full-time jobs: clerk, diet aide, nurse aide, and mother's helper. The mother's helper earned $15.00 a week; the others were paid 1.28 - 2.00 an hour.

Problems encountered by those working either full-time or part-time included too many bosses, backbreaking work, difficulty in getting along with co-workers, and low pay. Two girls who were not working said their problem was trying to find a job.

Dietary Aide Sample

Classes One and Two

Index of Success. Just one variable, numerical competence, was found to be positively related to the index of success for the dietary aide classes taught at an inner city high school, Table 5. The index showed a negative relationship to self-confidence and interest in occupational training for Class Two.

Pretest and Posttest Scores. Posttest scores which changed significantly from scores achieved at the initial testing were, for Class One, positive change on the achievement test, Preparation for Employment in Health Services, and a negative change on the Attitudes Toward Health Services Jobs scale. Class Two showed only negative changes, in attitudes toward school and health services jobs, Table 6. Teacher post-ratings of employability were significantly higher than preratings for Class Two only, on the Dietary Aide descriptive rating scale. Student post-ratings, however, were significantly higher in both classes on the Management and Dietary Aide scales; for Class Two, student self-ratings on the Becoming Employable descriptive rating scale also rose.

Student Interviews. Interview data showed that students in both classes liked best about the course the food preparation and service skills. Interest in course subject matter ran second and informal atmosphere, new friends, teacher, and outside work experience were also mentioned. When students in the two classes were asked what they had found most helpful they referred, in addition to their new skills, to job leads, orientation to work, and to opportunity to become better acquainted with themselves and their abilities. Most girls found nothing to dislike in the course; one each thought the tests were hard and that there were too many lectures, two thought the work could be more advanced, and one girl felt pressured in foods laboratories. Few girls could think of suggestions for improving the course; mentioned were uniforms, more field trips, and having "mixed teams of Spanish and colored" to lessen peer group pressure in laboratory periods. Seventeen of twenty girls interviewed said their previous work in home economics had provided a good background for the dietary aide course, both in knowledge of foods and nutrition and in skill in working with others. All but one girl felt ready at the time for jobs as dietary aides; all felt prepared for such jobs in the future. When asked why they had this assurance, the students replied that they liked the work and were confident of their ability. Every girl in the two classes felt the course would help them get jobs, as indeed it already had for many of them. Fifteen of the students favored hospital food service as a potential job; others liked best catering, child care, and waitress jobs. Seventeen students entered the course on recommendation of the teacher; one, a guidance counselor; and two, because friends were enrolled.

Work Experience. Prior to the course only four girls in Classes One and Two held jobs in private industry for which they received the minimum wage; eight held Neighborhood Youth Corps or similar government-sponsored jobs. At the conclusion of the course the teacher reported that eight students had worked as dietary aides for outside employers, earning from $1.60 - 2.00 an hour for totals of $178 - 803; the median was $452. Two girls worked as dietary aides in the school cafeteria, one of whom was also a clerk at $1.25 an hour. Two other students held outside jobs unrelated to the course: recreation aide and supermarket food checker, for which they earned $1.25 and $1.35 an hour respectively.

Follow-Up Study. Eighteen of the 21 girls who completed the course responded to at least one of the follow-up communications. Five girls continued over the summer as dietary aides, two as recreation aides, and one former dietary aide took a better-paying job as messenger for a large company. Three girls who had not held jobs during the school year worked during the summer, two as teacher aides and one as dietary aide. Three girls who wanted to work could not find jobs; one did not plan to work; and four girls attended summer school. Of the three girls not heard from, two did not hold jobs during the school year; one was a supermarket food checker.

Employer ratings of girls who completed the course ranged from 2.82 - 4.82 and student satisfaction with their jobs from 3.39 - 4.65. All but one of the girls liked their jobs, because of the money or "I can go to summer school in the day and work in the night" or "the people are nice, and understand, and they take time with you."

Classes Three and Four

Index of Success. Evidences of academic ability and achievement were related to success in two inner city dietary aide classes as was also, for Class Three, outside work experience. Girls achieving high index scores in Class Four tended also to have positive self-concept and attitudes toward home economics.

Pretest and Posttest Scores. For Class Three teacher ratings of student skills rose on three general scales and fell on one, Becoming Employable; teacher ratings did not change significantly for Class Four. The students, on the other hand, saw themselves as significantly more skillful in both classes on some general scales and the specific Dietary Aide scale, Table 6. In Class Three significant positive changes occurred on achievement test scores, Attitudes Toward Work, Self-Confidence, Attitudes Toward Working with Others, and Concept of Self in the World of Work; in Class Four just Attitudes Toward Work scores showed significant change.

Student Interviews. Liked best by students in Classes Three and Four were food preparation and catering, although two "liked it all." They found most helpful, in addition to cookery skills, orientation to work--"different kinds of jobs I could do." Mentioned singly were safety rules, cleaning up, types of diets, and working with other girls. Most students found nothing to dislike about the course but three said tests were hard, four thought subject matter was difficult at first, and four said there was some overlap in the world of work unit with other courses they'd had. When pressed for suggestions for making the course even more meaningful one girl said she would like "more field trips, to get more of an idea about jobs", three thought the orientation to work unit could be shortened or mixed with other topics. Most of the girls had no suggestions for improvement and expressed satisfaction with the course and the teacher. Most of the girls considered previous home economics courses to be necessary and useful; two said previous clothing courses did not contribute. Twelve of 14 girls in Class Three felt adequately prepared to accept a job in food service either at once or in the future; all but 3 of 11 girls interviewed in Class Four felt ready. As in Classes One and Two, the girls said they felt ready for dietary aide jobs because they liked the work and were confident of their skills. Those who did not feel prepared wanted more training. Favored potential jobs in food service were catering, cook's helper, and hospital food service. Nine had no choice, one preferred clerical work and another to work in a children's home. Eighteen enrollees had learned about the course from the teacher, seven from guidance counselors.

Work Experience. All but one of the girls in Classes Three and Four were seniors and the two classes were the most academically able in the dietary aide sample. Twelve of the 26 girls who completed the course had held jobs the summer before in private businesses paying the minimum wage; nine had held government-sponsored jobs. The teacher reported that during the course all enrollees had 10-50 hours of unpaid work experience where girls rotated jobs in class catering projects so that each had experience as waitress, cook's helper, manager, baker, hostess, and diet aide. Five girls held outside jobs during the course as dietary aides, earning a total of $554. - 810. at $1.68 - 2.26 an hour.

Follow-Up Study. Responses to follow-up communications were received from 24 of the 26 girls who completed the course. Many girls in Classes Three and Four had a background of business courses and 17 took jobs as clerk-typists, at $1.60 - 2.50 an hour. Three girls were dietary aides at $1.73 - 1.85; one was a beautician at $1.30. All the girls who worked held jobs in private industry. Three girls reported holding no job, one because she continued in school. Employers rated the girls holding clerk-typist jobs from 2.73 - 4.30 on the Employer's rating scale; the median was 3.78. The girls rated their job satisfaction as 2.82 - 4.78, mdn = 4.08. Follow-up ratings were available for one dietary aide; her employer rated her at 4.27 and she rated her job at 3.78. Clerk-typists liked their jobs because of the people; dietary aides, knowing they were helping someone and because time went fast. Problems encountered by some girls in the classes included distance to work, feeling that they were being given more than their share of work, boring work, and unfriendly co-workers. One student wrote of her file clerk job:

> I do like the job, but for a high school graduate, I consider $63.00 a very low wage. I'm holding up to it because jobs are very hard to find and I need to work. Promotions are very hard to get (we stay on the file for good) but after all, it is a steady job and a good company to work for.

Classes Five and Six

Index of Success. Evidences of academic achievement and ability were related to the index in Classes Five and Six, dietary aide classes taught in an inner city high school, just as they were in the other classes in the dietary aide sample. For Class Five, additionally, low self-confidence at the conclusion of the course and work experience were significantly related to the index. For Class Six, those scoring high on the index tended to score low on the Expectations from the Course scale, Table 5. Two findings not included in Table 5 were that the index was, for Class Five, also related to girls' total expectations of working during the family life cycle ($r = .49$) and to improved attendance over the previous year, $r = .70$. Both findings are significant at the .05 level.

Pretest and Posttest Scores. Teacher ratings of student skills rose significantly on all four general employability scales for Class Five, on the Sanitation descriptive rating scale for Class Six, and on the Dietary Aide scale for both classes. Posttest scores were significantly higher on the Attitudes Toward Working with Others scale for Class Five and Attitudes Toward School for Class Six; in both classes scores on Married Women Working went down significantly.

Student Interviews. Girls in Classes Five and Six liked food preparation best in their course, with work in the nursery school a close second choice. Five girls favored the academic work and four liked best the total course. Reference was also made to informal atmosphere, teacher, and outside work experience. Only three girls could find anything to dislike about the course: nursery school participation for one girl who preferred to work with adults, difficult mathematics, and not enough foods preparation. All but two students considered their previous home economics useful for background, stimulation of interest in the new course, and skill in working with children. Two girls did not feel ready to take dietary aide jobs at once or in the future and two were not sure; they were "a little scared" and wanted more training. Those who felt adequately prepared said they felt confident and liked the work. Twenty of the 27 girls interviewed said the most helpful feature of the course was acquiring food service skills; five girls each said leads to jobs and working with children were especially helpful; four credited orientation to work; three, becoming better acquainted with themselves; and one each, home management, learning about future schooling possibilities, and the total course. Favored jobs for 24 girls were hospital or nursing home food service, one preferred to work in a nursery school, and two were undecided. All the girls interviewed thought the course would help them get jobs, as had already been demonstrated. Fifteen girls had learned of the course from a teacher, ten from guidance counselors, one from friends, and one said she enrolled on her own initiative.

Work Experience. At the conclusion of the course the teacher reported that 17 girls had outside work experience as dietary or pantry aides, three were in process of application, one had a job with a telephone answering service, two were teacher aides, and five were not working. All students had 117 hours of unpaid work experience in the home economics department nursery school. The girls earned as much as $400. during the school year; some were just starting their jobs at the time of the teacher's report. Dietary aides earned a median of $180; hourly wages varied from $1.50 - 1.96 an hour. Prior to the course ten girls had worked, all apparently in government-sponsored jobs.

Follow-Up Study. All but one of 28 girls who completed the course responded to follow-up communications. Sixteen girls worked as dietary aides during the period of the follow-up, although two of the 16 changed to government-sponsored jobs of the Neighborhood Youth Corps type because their dietary aide jobs were just part-time and they wanted more hours of work. Two girls said they could not find jobs, two did not seek jobs, seven worked in government-sponsored jobs, one worked as a volunteer teacher aide for 35 hours a week. The dietary aides were rated by their employers from 2.73 - 4.35; the median for 12 ratings was 3.78. The aides rated their job satisfaction as 3.52 - 4.70, mdn = 4.17 for 12 ratings. All the girls liked their jobs: new experiences, meeting people, making friends, gaining occupational experience, and helping hospital patients. Problems encountered were having to work weekends and some holidays, insufficient hours of work a week, and travel time and expense. A Youth Corps worker wrote, "The job I have isn't what I want. I would like a diet aide job."

Health Careers Sample

Index of Success

Variables found to be associated with the index of success for five health careers classes taught in a single city school were positive attitudes toward home economics for all five classes and, for four out of five, evidences of academic ability or achievement and either positive self-concept or self-confidence. A positive attitude toward working with others was significantly related to high ranks on the index for one class.

Pretest and Posttest Scores

Only post-ratings on the descriptive rating scales were available in the sample so measurements could not be made of possible increase in occupational skills. Each of the five Health Careers classes showed gain scores, however, on instruments included in the test battery. In all classes Interest in Occupational Training scores rose at a .01 level of significance, Table 6. Attitudes Toward Home Economics scores rose in three classes; scores on Married Women Working and Attitudes Toward Work in two; and achievement test scores, Attitudes Toward Health Services Jobs, Self-Confidence, and Concept of Self in the World of Work in one each. Attitudes Toward School scores fell significantly in three classes and Attitudes Toward Working with Others in a fourth class. Expectations from the Course rose in one class and fell in another.

Student Interviews

Student responses to individual interviews are summarized in Table 11. Class lecture-discussions on obstetrics, infant care, and child development equalled in popularity food preparation and nursing skills. Others liked best informal atmosphere, teacher, or help with personal relationships. The respondents said most helpful in the course were the features listed above and also orientation to work

Table 11

Responses of Health Careers Sample to Post-Course Interview Schedule

Class	1	2	3	4	5
Liked Best of Course:					
Class Lecture-Discussions	8	13	13	10	12
Food Preparation	8	4	8	4	2
Nursing Skills	4	3	3	5	5
Informal Atmosphere	1	1	2		
Teacher		2	3	2	1
Help with Personal Problems			1		
Everything	3	1	1	1	3
Didn't Know		1	1		
Most Helpful:					
Class Lecture-Discussions	15	11	13	11	11
Nursing Skills	5	4	8	8	7
Teacher			1		
Becoming Acquainted with Self	3	1	1	1	1
Food Preparation	2		3		2
Orientation to Work		2	4	1	
Possibilities for Further Training		2	1		1
Everything	2			1	1
Disliked or Difficult:					
Nothing	6	10	6	8	7
Too Much Lecturing	4	1	1	4	
Repetition of Previous Classes	1		1	2	5
No Work Experience	3			1	
Not Enough Cooking	4	3	6		3
Too Much Bedmaking		2	1	1	3
Difficult Vocabulary	2		2	1	
Suggestions for Improvement:					
More Variety in Class Experiences	5		4	5	
Work Experience	3	1	1	1	1
Volunteer Hospital Experience		1		1	
More Cooking and Nursing Skills	6	3	3	4	7
Longer Class Period	1	3	1	1	1
More Baby and Child Care	2				1
More Space and Equipment			1	1	
Guidance Counselors Should Know What Course Is About			3	1	1
Additional Nursing Courses			1		

Table 11 (Continued)

Class	1	2	3	4	5
Previous Home Economics:					
7th or 8th Grade	15	14	13	12	13
Secondary	4	3	2	4	4
Good Background?	8	3	5	7	6
Feel Ready Now for Health Service Job:					
Yes	8	11	8	11	11
No	12	5	9	5	5
?	2			1	1
Later in Life:					
Yes	12	11	10	12	16
No	6	4	6	3	1
?	3	1	1	2	
Why?					
Like the Work	8	7	2	4	6
Feel Confident	5	5	6	6	6
Don't Like It	1				
Will Need Some Job		1			
Need More Training and Experience		1		1	4
Favored Health Service Job:					
Hospital - General Duties	4	5	7	2	8
Hospital Food Service	1	1			
Children's Clinic	8	6	3	6	7
Nursing Homes	2	1		1	1
Doctor's Office	2	1	2	3	2
Physical Therapy	2		1	1	1
Private Home		1		1	
Social Work		1			
Hospital - Clerical			1	1	
Don't Know	1	1			
None			5	1	1
Course Help Get Job:					
Yes	11	11	9	14	13
No	10	2	7	3	4
?		2	1		
Course Recommended By:					
Guidance Counselor	15	14	14	15	14
Teacher	1	2	2		1
Student	1	1	1	2	2

and exposure to possibilities for further training. Disliked or difficult parts of the course were repetition of previous classwork, lack of outside work experience, not enough cooking, and more than enough lecturing. Their suggestions for improvement of the course included more variety in class experiences, longer class periods, both volunteer hospital experience and paid work experience, and better-informed guidance counselors. The generally younger students in this sample did not feel as ready to take health aide jobs as did students in the more skill-oriented dietary aide and nurse aide classes. Reasons for feeling prepared were, however, the same: liking the work and feeling confident of their knowledge and skill. A major purpose of the course was to acquaint girls with a variety of potential health services jobs and students selected favored jobs from among nine possibilities. A majority of enrollees thought the course would help them get jobs because of new skills and knowledge of job requirements. The course had been recommended to most of the girls by guidance counselors; sometimes, according to the girls, the counselors had erroneously described the course as a foods class.

Work Experience

Work experience, either within the school situation or for outside employers, was not planned as part of this introductory course.

Follow-Up Study

Responses to follow-up communications were received from 73 of the 96 girls who completed the course. Forty-four students either could not find jobs or did not plan to work because of summer school attendance, family vacations, being needed at home or underage; five of these did extensive volunteer work in city hospitals. Seventeen held Youth Corps-type jobs and 13 had private jobs as mother's helper, file clerk, typist, salesclerk, waitress, or telephone operator. Students working for private employers earned employer ratings of 2.73 - 4.45 and rated their jobs 2.39 - 4.64. Students holding government-sponsored jobs received employer ratings of 3.45 - 5.00 and rated their satisfaction with the job at 2.96 - 4.65. Things the students liked about their jobs were good working conditions, helpful employers, earning money, learning about community problems, activities and trips, and meeting people. Most of the girls reported having no problems; those encountered by some respondents, however, were short lunch period, inconvenient hours, monotonous trip to work, too many bosses, low pay, boring work, family problems at home, and preferring health services jobs to those they had.

Nurse's Aide Sample

Class One

Index of Success. Positive attitudes toward working with others, basic academic skills, and evidence of academic achievement were related to the index of success for this inner-city class training nurse's aides, despite the tendency for those high on the index to have low expectations from the course, Table 5.

Pretest and Posttest Scores. Posttest scores for this class showed no change over scores achieved during pretesting except for a downturn in attitudes toward health services jobs, Table 6. Pre- and post-ratings on descriptive rating scales were available only for teacher ratings of students on the Becoming Employable scale, which showed no significant change.

Student Interviews. Individual interviews revealed that 13 students in this class of 17 liked best the practice of infant care, food preparation, and nursing skills; others liked best the total course, class discussion-lectures, and the teacher. Practicing skills in class was designated the "most helpful" part of the course by ten students; two said teacher-class discussions were most helpful and mentioned once each were making friends, learning to care for children and the aged, information about the world of work, and becoming better acquainted with one's abilities. One girl found nothing helpful because she'd "had the course before".

Eleven girls said they disliked nothing in the course; five found the course repetitive and one thought there should be more foods work. When asked for suggestions for improving the course two thought more books and equipment would be useful, two said they were disappointed not to have outside work experience, two wanted more field trips. One each suggested more foods work, more about diseases and how to treat, more orientation to work, more homework, more skill practice in general, and more variety. Fourteen students had had at least one junior high course in home economics and eight students had from 1 to 3 units of home economics prior to the course. All but one found the previous home economics courses helpful as background for the nurse aide course. Thirteen students felt ready, at the conclusion of the course, to take a job in health services; 14 thought that later in life they would still feel adequately prepared for health services jobs, one didn't know, one wouldn't want that type of job, and one said she would not feel prepared. When girls were asked why they felt prepared for health services jobs either now or in the future nine mentioned confidence in their ability to do the work, six liked the work, and one felt the experience of working with her own children would help.

Seven girls preferred health services work in hospitals, five chose children's clinics, two selected nursing homes, and one preferred physical therapy. Two girls hoped to become registered nurses; one student preferred clerical work. Only seven girls felt the course would help in securing jobs, with one girl undecided. The girls pointed to the skills they'd learned in class as contributing most to making them employable. The course had been recommended to ten students by the grade advisor or guidance counselor, to two by the teacher, to one student by friends, and three enrolled because of individual interest.

Work Experience. Six students held jobs at the time of the interview, only one of which was obtained with help from the school: a guidance counselor, in this case. One girl baby-sat regularly, one worked as an office clerk and one as a sales clerk. Three students held after-school jobs with Neighborhood Youth Corps or a comparable city organization. Complete records of work experience were not available. The original teacher sought nurse aide jobs for her class but the hospitals she contacted required that nurse aides be 18 years old before employment.

Follow-UP Study. Twelve of the 17 girls in the class were seniors and, presumably, able to seek permanent jobs. Of seven seniors who supplied follow-up information two were unable to find jobs and two held jobs as nurse aides at a city hospital and State institution. Both nurse aides liked their jobs and hoped to go soon for training as LPNs; their only problem was earning the money that would enable them to go. Two students worked as office clerks at $1.70 and $1.78 an hour; one senior continued to work with the Neighborhood Youth Corps--a job which she liked. Two juniors who responded worked for Federal or city youth programs; one, a tutor, had hoped for another job and the other, a typist, said her work was boring. The tutor received a rating from her employer of 4.60 and rated her job as 3.70. The typist rated her job at 3.26, with no employer rating available. Two seniors working as nurse aides rated their jobs at 3.90 and 4.40. One, in turn, received a perfect employer rating of 5.00. Other seniors rated job satisfaction 2.86 - 4.43 and received employer ratings of 3.63 - 4.70.

Class Two

Index of Success. The concordance coefficient for the index of success for this class did not reach the criterion .05 level of significance and the index was therefore an inappropriate measure of student progress in the class.

Pretest and Posttest Scores. Four posttest scores rose significantly over pretest results: Married Women Working, Attitudes Toward Work, Interest in Occupational Training, and achievement test. Scores on the self-concept measure went down, Table 6. Teacher post-ratings of students on the descriptive rating scales rose on all four general scales and on the specific Nurse's Aide scale, all at the .01 level of significance. Student self-ratings also rose for the Nurse's Aide scale and for two of the general employability scales: Becoming Employable and Management.

Student Interviews. Most students in this health services aide class liked best the practice of nursing skills. Three students liked best the total course and three chose child care. Ten students, accordingly, found practice of skills most helpful; two said class-teacher discussions; and one each, the total course, child care, help with choosing a job, and better understanding of one's self. Six students disliked nothing in the course; two found note-taking excessive and two said the class repeated material learned in previous home economics classes. One disliked the daily department cleanup and thought the school should hire a janitor; one thought too much time was spent on orientation to work and another wanted more food preparation. Three students found difficult the vocabulary, bone structure, and vitamin deficiency diseases. One girl said that at first she didn't get along well with the other students. When pressed for suggestions for ways to improve the course, two girls said more demonstrations and practice would be useful, four said subject matter could be more advanced. One student each suggested outside work experience, more professional equipment, more books and space, and one girl thought the unit on breakfasts could be omitted from foods preparation. All but one of the class of 16 had at least one unit of high school home economics; most found their extensive background in home economics good preparation for the nurse aide course either as background knowledge in foods, child care and home nursing or as help with management and personal relationships.

Eleven girls felt prepared, at the conclusion of the course, for health services jobs and 13 felt ready to take such jobs later in their lives. Twelve students thought the course would help them get jobs; two were not sure. Reasons for feeling adequately prepared were confidence in skills, knowing what to expect, and liking health services jobs. Eight girls favored jobs in children's clinics or hospital pediatric wards; one preferred hospital food services and two general hospital work. Three girls would like jobs in recreation or physical therapy and one wanted to work with the handicapped. The health services class had been recommended to the girls by guidance counselors in their home schools.

Work Experience. Supervised work experience was not planned as part of the course taught at an area occupational center. Only four girls held regular jobs at the time of the interviews, housecleaning or babysitting; eight girls babysat occasionally. Only two students were earning the minimum wage. Seven girls, however, had done volunteer work in general and veterans' hospitals, church programs, and Headstart.

Follow-Up Study. The health services class was made up of seven juniors and ten seniors, all but one of whom responded to follow-up questionnaires. Of nine seniors four were not working, one worked one day a week housecleaning for a private family, three were waitresses, and one had a Youth Corps job. One waitress had been a nurse aide but had to leave the job because of transportation difficulties. The girls rated their job satisfaction at 3.35 - 4.18. One employer rating for these former seniors was received, a 4.09 rating for the Youth Corps aide. Two of the junior students were unable to find work; two did not seek jobs because they had travel plans or were needed at home. One worked as diet aide at a city hospital 15 hours a week at $1.65 an hour; she rated her job at 4.65 and was rated by her employer at 4.09. One student worked in a camp as kitchen helper and waitress and listed as problems low pay and long hours. She rated her job at 3.26 and received a rating from her employer of 4.27. Another junior worked 14 hours a week for a private family at $1.35 an hour and also received a high rating, 4.50, from her employer although her own job satisfaction was low (3.45).

Class Three

Index of Success. The index of success for a nurse's aide class taught in an Upstate area occupational center was related to concept of self in the world of work and attitude toward working with others, at .01 and .05 levels of significance, Table 5.

Pretest and Posttest Scores. Posttest scores which differed significantly from pretest results all changed in a positive direction: the achievement test, Preparation for Employment in Health Services; Attitudes Toward Work; and Concept of Self in the World of Work. Teacher post-ratings of students on the descriptive rating scales rose for the Management scale; student self-ratings did not change significantly over the year.

Student Interviews. Work experience half a day weekly in a true hospital situation was liked best by 10 students enrolled in this area occupation center and was mentioned as most helpful by nine. Other features liked best by the students were classroom practice in skills, knowledges gained, sex education, the informal classroom atmosphere, and the teacher. In addition to nursing skills practice in the hospital and classroom and sex education, students found most helpful becoming acquainted with their personal abilities.

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When students were asked what features they disliked and for suggestions for improvement of the course, three said the class period was too long and felt the need for more preparation for the hospital work experience, one wanted more foods work, one more work on medical records; six students thought more of the popular hospital work experience, although unpaid, would improve the course. Two students wanted texts which were easier to read; two suggested more classroom demonstration and practice; one, more movies.

All but one of the students had junior high homemaking, ten had 1-2 units of home economics at the secondary level. Ten students said previous home economics courses had provided a good background for the occupational course. Eleven students felt ready, at the conclusion of the course, to take a job in health services and an equal number felt prepared to take such jobs later in life because of confidence in their new skills. Seven students preferred to work in hospitals, four in children's clinics, one with retarded children, one with medical records, one in private homes, and one as a social worker. Occasionally students had two job choices. All 13 students who completed the class thought the course would help them get jobs, for reasons including mostly acquisition of skills but also orientation to work, introduction to health service type jobs, and self confidence. Most students had enrolled in the course on recommendation of their home guidance counselors or principals; one entered on her own initiative.

Work Experience. The total of available class periods for supervised work experience in a city hospital was 40 hours. No provision was made for make-up of missed hospital experience. The teacher wrote, however, that "Even those with poor school attendance came in for participation days. Loss of time was usually illness, rarely for 'no uniform'". One girl refrained from direct patient care after a few sessions but she wanted to complete the course. She passed the course but did not receive a certificate as health services aide nor did another student, who required an exceptional amount of supervision on the job. In addition to the unpaid work experience, two students worked in the school cafeteria from 1-2 hours daily, one girl housecleaned, and two babysat from time to time. Only one girl received the minimum wage; none of the jobs was obtained through the health services course.

Follow-Up Study. All 13 girls who completed the course responded to follow-up communications. Five sophomores and one junior were unable to find summer jobs, although one went to work as a hospital aide early in September. Five students did not look for jobs because of vacation plans, illness at home, or entrance to business school. Two seniors found full-time jobs paying the minimum wage, one as nurse aide in a city hospital and one as clerk in a bookstore. Both said they liked their jobs, rating them at 4.04 and 3.17 respectively and being rated by their employers at 4.91 and 2.45. The nurse aide found transportation a problem.

Class Four

Index of Success. Correlates of the index of success for an inner city course training nurse's aides were reading ability and attitudes toward home economics, Table 5.

Pretest and Posttest Scores. Posttest scores were significantly higher than those achieved at the beginning of the course for one instrument: Attitudes Toward School. Posttest scores were significantly lower for the Attitudes Toward Work scale, self-confidence measure, and Attitudes Toward Health Services Jobs scale (see Table 6). Teacher post-ratings of her students on the descriptive rating scales rose significantly for the Safety scale and moved down for the Sanitation scale. Student self-ratings rose significantly on the Becoming Employable descriptive rating scale.

Student Interviews. Students who completed a health services course in this inner city high school liked best practicing nursing skills, infant and child care, and making friends in class. Three girls found all of the course "interesting and worthwhile". Teacher-class discussions were most helpful to five students; equally helpful were demonstrations and skills. Two students mentioned as helpful learning medical terminology and understanding oneself and how to get along with others.

Putting on a play, strict class discipline, and difficult terminology were disliked by one student each. Nine students said the course would be improved by the addition of outside work experience. Other suggested improvements were more room and better equipment. One girl said the program should start earlier in high school so students would have time to take subjects required for entrance to professional nursing courses. Ten of the 12 girls had seventh and eighth grade homemaking, which five found to be helpful background for the occupational home economics class. Eight girls felt ready, at the conclusion of the course, to take jobs in health services. Three did not because "class is different from the real thing". Nine girls felt they could handle a job as health services aide later in life because of self-confidence gained from the course, ability to take responsibility, and on-the-job training. Five favored jobs in children's clinics and one each, LPN, doctor and lab technician. Two girls liked any hospital jobs and one wanted to be a keypuncher. Eight girls thought the health aide course would help them get jobs. One student had been referred to the course by the teacher, others by guidance counselors.

Work Experience. Students and teacher had expected supervised work experience to be an important part of the occupational home economics course, but hospitals and nursing homes contacted required that nurse aides be 18 years old. At the time of the interviews, most of the girls babysat, one was an office clerk, one had a Youth Corps job, and one had a food service job two and one-half hours daily which paid the minimum wage. None of the jobs was obtained through the nurse aide course.

Follow-Up Study. Five of the 12 juniors who completed the course found summer jobs. Two were aides in Federal or city youth programs, one was an office clerk, one a nurse aide in a city hospital and one continued in her part-time food service job. All five received at least the minimum wage and rated their job satisfaction from 2.65 - 5.00. The only employer rating received was 3.90 for the clerk. The girls said they had no problems with their jobs except working on weekends. Two respondents were unable to find jobs and three did not plan to work because of summer school or they were needed at home.

Class Five

Index of Success. Reading ability, current GPA, and outside work experience were related to the index of success for the health aide class taught in a Long Island high school. Initially positive attitudes toward home economics were also significantly correlated with the index.

Pretest and Posttest Scores. Posttest scores rose significantly for five instruments: achievement test, Attitudes Toward Work, Attitudes Toward Working with Others, Interest in Occupational Training, and Concept of Self in the World of Work. Attitudes Toward School scores went down significantly, Table 6. Teacher post-ratings of students on the four general employability descriptive rating scales and the specific scale, Nurse's Aide, all rose at the .01 level of significance. Student self-ratings rose significantly for three general scales: Becoming Employable, Safety, and Management.

Student Interviews. Class lecture-discussions and food service and nursing skills were liked best by seven girls interviewed; four girls each liked best field trips and the entire course; three liked best the informal atmosphere. Skills and class discussions were nominated for "most helpful" feature of the course by eight girls; becoming better acquainted with oneself and one's abilities by six; and job leads, learning to work more smoothly with others, orientation to work, and teacher's help with personal problems by two each. The girls found little to dislike about the course but did suggest that there be more work experience earlier in the course, that guidance counselors be better informed about course content and objectives, more equipment, more practice of nursing skills, and more community-wide publicity for the new course. All but two of the girls said their previous courses in home economics were useful as background for the new course; mentioned specifically were foods, child care, home nursing, and personal relationships. All but one of the girls felt ready at the time for a health services aide job; all felt prepared for such jobs later in their lives, except that one girl thought she'd be out-of-date after ten years. Reasons given for their assurance included confidence in their training, liking the work, and knowing what was required. All but one of the girls thought the new course would help her get a job; that girl planned to be an LPN and knew she required additional training. Favored health services jobs were physical therapy or recreation aide at nearby State institutions, work in doctor's and dentist's offices, and children's homes. Mentioned less often were jobs in hospitals and as LPNs. Sixteen girls learned of the course from the teacher or home economics supervisor, two from guidance counselors.

Work Experience. The teacher's report of student work experience during the course showed that ten of the 18 girls held health services jobs, one was an electronics assembler and one a bakery clerk-cashier. The girls earned as much as $1178. (assembler) and $1058. (diet aide), with the median at $560. Most of the girls received the minimum wage; exceptions were a home health aide and school aide. All girls had 9 - 11.5 hours of unpaid work experience related to the course.

Follow-Up Study. Sixteen of the 18 girls who enrolled in and completed the course responded to follow-up communications. Three of the 16 were not working; one, who had been a cashier, because she had moved to a new area. Five girls were working in health services jobs: nurse's aide, attendant at State school, physical therapy aide at State hospital, and medical typists. Six girls had jobs as cashiers or salesclerks. Two were clerk-typists and one continued in her job as electronics assembler. Nine employer ratings were received, 2.36 - 5.00, median = 4.18. Eight girls rated their jobs at 4.21 - 4.78, mdn = 4.28. The girls in health services jobs received employer ratings of 3.10 for a medical typist in a private office to 4.99 for the physical therapy aide.

RESULTS: CORRELATION MATRICES

Three correlation matrices were run in the present study--one for each of the three samples--to explore relationships among test scores, work experience, follow-up data, and student background. Answers were sought to the following questions of general interest:

a. What basic academic abilities and attitudes are necessary for success in an occupational education course and entry-level jobs related to home economics?

b. What student characteristics are related to the development of adequate occupational skills?

c. Do girls' expectations of working during various periods of the family life cycle change as a result of enrollment in an occupational education class?

d. What factors are related to interest in occupational training?

Dietary Aide Sample

Basic Abilities and Attitudes Required for Success in Class and On-the-Job

A question of major interest to occupational education concerns basic attitudes and abilities students must possess in order to achieve success both in an occupational class and an entry-level job. In the present study scores representing academic abilities and attitudes thought predictive of success on the job--attitudes toward school, work, working with others, health services jobs, and self-concept--were compared with the converted index-of-success score, employer ratings, job satisfaction, and follow-up wage and job status (Table 12).

Success in Class. Teachers of the dietary aide classes were able to work successfully with students of low academic ability. Student course marks and ranks on the index of success--converted according to Lindquist (9) for use in the correlation matrices--

Table 12

Interrelationships of Academic Ability, Attitudes, and Follow-Up Data[1]: Diet Aide Sample

	MC	CIN	RA	NC	HST	ATW	AHSJ	C of S	AWO	ATS	FW	ER	FJS	JS
GPA	.43***	.22	.03	.01	-.13	-.05	.05	-.05	.13	.23	.02	.05	-.48***	-.12
MC		.59***	.17	.29*	.18	.10	-.02	.02	-.14	.19	.07	-.29	-.34*	.11
CIN			.33**	.27*	.39**	.27*	.06	.15	.13	.11	.04	.02	-.11	-.11
RA				.49***	.49***	.18	-.02	.03	.09	.11	.11	-.03	.09	-.20
NC					.44***	.41***	.02	.03	-.04	.02	.05	.02	-.01	-.16
HST						.53***	.15	.21	.23	-.13	-.04	-.03	-.06	-.10
ATW							.25*	.29*	.10	.16	.11	.10	.12	.02
AHSJ								.27*	-.04	-.08	.02	.21	-.04	.07
C of S									.54***	.19	.30*	-.31	.11	.38**
AWO										.23	.32*	-.28*	.02	.08
ATS											.39**	-.33	-.04	.25
FW												-.39*	.04	.18
ER													-.27	-.16
FJS														.15

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[1] Seeming inconsistencies in significance designation in the Tables are due to wide variations in Ns associated with specific correlations.

Key:
GPA = Grade Point Average
MC = Mark in Course
CIN = Converted Index-of-Success Score
RA = Reading Ability
NC = Numerical Competence
HST = Health Services Achievement Test
ATW = Attitudes Toward Work
AHSJ = Attitudes Toward Health Services Jobs
C of S = Concept of Self in World of Work
AWO = Attitudes Toward Working with Others
ATS = Attitudes Toward School
FW = Follow-Up Wage
ER = Employer Rating
FJS = Follow-Up Job Status
JS = Job Satisfaction

showed a strong relationship. The converted index score was significantly related to reading comprehension and numerical competence but not to a disabling degree for those students having reading and computation difficulties, common problems of students in the sample. The basic attitudes in question were significantly related neither to mark in course nor converted index score except that Attitudes Toward Work scores, which are a part of the index, were correlated with the index as expected.

Employer Ratings. Evaluation of the dietary aide classes in the present study replicated an earlier study of food service workers (10). In neither case did academic ability and achievement seem to figure heavily in employer ratings of students going into entry-level jobs, with the exception that a slight relationship was shown--in the earlier study--between employer ratings and mark earned in the occupational course ($r = .32$). Similarly, the relationship between employer ratings and attitudes toward work and school were nonsignificant in both studies. As in the previous study job satisfaction of the former students and employer ratings were not significantly related.

Follow-Up Wage and Job Status. In the earlier study job status and hourly wage on follow-up jobs were related neither to evidences of academic ability nor attitudes thought predictive of success on the job. In the present study follow-up wage was correlated at .01 level of significance with Attitudes Toward School ($r = .39$) and at .05 with Attitude Toward Working with Others ($r = .32$). The follow-up wage, in turn, was negatively correlated with the employer rating ($r = -.39$); a slight negative relationship was also shown between the employer rating and Attitude Toward Working with Others ($r = -.28$).

For the dietary aide sample follow-up job status was negatively correlated with GPA and mark earned in the occupational course, indicating that those students who had achieved less well in school were holding higher-status jobs during the period of the follow-up study--not an unexpected finding, since older students in the study tended to do less well, academically, in school and were in a position to look for permanent jobs.

Student Characteristics Related to Occupational Skills

A question closely related to the degree of basic ability required for success in occupational education concerns student characteristics related to the development of occupational skills which adequately meet both the standards of the course and the potential employer. Interrelationships of academic ability, basic attitudes, and measures of occupational skills, Table 13, showed much the same pattern for the dietary aide sample in the present study as for the food service workers in a previous study being replicated (10). As was the case in the earlier study, evidences of academic ability and achievement were significantly intercorrelated--often at the .001 level of significance--with teacher ratings of students on the descriptive rating scales. The close relationship between teacher ratings and the mark earned by students in the course suggests that skills were heavily weighted by the teachers when assigning course marks just as skills are heavily weighted in the index of success developed for the program evaluation.

In the earlier study attitudes toward work and self-concept showed a slight relationship to teacher ratings of occupational skills; no comparable relationship was shown in the present study for the attitudes toward work or self-concept measures or for the new attitude scale, Attitudes Toward Health Services Jobs. Scores on the Attitudes Toward Work scale were significantly correlated with evidences of academic ability, as in earlier studies, and with the other attitude measures.

Student Self-Ratings, Teacher Ratings, Work Experience, and Follow-Up Data

Employer ratings, in the earlier study, tended to agree with teachers' judgment on the descriptive rating scales. Such was not the case in the present study. (See Table 14). Significant relationships shown for employer ratings for the dietary aide sample were in a negative direction: total units of vocational education (r = -.43) and follow-up wage (r = -.39). Similar negative, but non-significant, relationships were also shown in the earlier study.

Contrary to findings in the earlier study teacher ratings on total employability, Management, and Dietary Aide descriptive rating scales were found related to higher follow-up wage. Follow-up job status in the present study was negatively related to teacher ratings; similar correlations in the earlier study were near zero or in a positive direction although non-significant.

In neither study did student self-ratings show significant relationships to employer ratings. Self-ratings and teacher ratings rarely agreed in either study; a relationship (r = .24) significant at the .05 level is shown between student self-ratings and teacher ratings on the most specific descriptive rating scale used in the sample, Dietary Aide.

Work experience data, Table 14, showed a strong relationship between total work experience--a combination of simulated experience

Table 13

Interrelationships of Academic Ability, Attitudes, and Occupational Skills: Diet Aide Sample

	HST	NC	MC	DA	BE	MGT	TE	AHSJ	ATW	C of S	AHE
RA	.49***	.49***	.17	.25*	.14	.22	.20	-.02	.18	.03	-.01
HST		.44***	.18	.11	.16	.28*	.17	.15	.53***	.21	.27*
NC			.29*	.34**	.24*	.40***	.34**	.02	.41***	.03	-.06
MC				.58***	.46***	.59***	.43***	-.02	.10	.02	.23
TR: DA					.69***	.80**	.74***	-.18	-.01	.01	.06
BE						.77***	.80***	-.02	.18	.02	.08
MGT							.83***	-.08	.20	.09	.12
TE								-.10	.17	-.22	-.01
AHSJ									.25*	.27*	.09
ATW										.29*	.23
C of S											.50***

Key: TR = Teacher Rating
DA = Dietary Aide Rating Scale
BE = Becoming Employable Rating Scale
MGT = Management Rating Scale
TE = Total Employability (Ave. of Becoming Employable, Management, Sanitation, and Safety rating scales)
AHE = Attitudes Toward Home Economics

Table 14

Interrelationships Among Student Self-Ratings, Teacher Ratings, Work Experience, and Follow-Up Data

	SR: DA	TR: DA	TE	BE	MGT	VOED	FW	FJS	JS	ER	TWE	TYPE I	TYPE III
SR: TE	.68***	.16	.06	.08	.04	-.05	.17	-.06	.20	.03	.18	.06	.23
DA		.24*	.07	.05	.06	-.23	.11	-.13	.16	.09	.40***	.12	.28*
TR: DA			.74***	.69***	.80***	.18	.30*	-.36**	-.06	-.26	.16	.55**	-.27
TE				.80***	.83***	.28*	.37**	-.11	-.10	-.11	.01	.44*	-.53***
BE					.77***	.69***	.16	-.22	-.18	.05	-.08	-.02	-.25
MGT						.32***	.41**	-.30*	-.08	-.16	-.09	.27	-.48***
VOED							.31*	.02	-.01	-.43**	-.22	.22	-.49***
FW								.04	-.39*	-.39*	.01	.54**	-.39*
FJS									-.27	-.27	-.17	.43*	-.14
JS										-.16	.01	.14	.14
ER											-.12	-.28	.28
TWE												.91***	.39**

Key: SR = Student Self-Rating
VOED = Units of Vocational Education
TWE = Total Hours Work Experience
TYPE I = Work Experience related to course, for outside employer
TYPE III = Simulated Work Experience

and work for outside employers--and teacher ratings of students on the Dietary Aide descriptive rating scale. Total hours of work experience for an outside employer, Type I, was significantly related to follow-up job status and wage in addition to teacher ratings. Total hours of Type III, simulated work experience in department nursery school or class catering projects, showed negative relationships to both teacher ratings and units of vocational education but a slight positive relationship to student self-ratings on the Dietary Aide descriptive rating scale.

Expectations of Working

A question of concern to educators of women is whether girls' expectations of working during various periods of the family life cycle change as a result of enrollment in an occupational education class. Those students in the present study who expected to work after marriage showed a stronger commitment to work both after they have children and after their children leave home than did girls in the earlier study. In the earlier study self-confidence was a factor in commitment to work; such was not the case in the present study. Girls in the present study who expected to work after they have children had higher scores on the Married Women Working scale; total expectations of working after marriage were also related to attitudes toward married women working, Table 15. Relationships between attitudes toward work and expectations of working during the family life cycle were generally near zero, a finding common to the earlier study.

Posttest mean scores for girls' expectations of working were not significantly different from mean scores at the time of pretesting.

Expectation of Working	Mean Score Pretest	Posttest
After Education	3.00*	2.97
After Marriage	2.79	2.75
After Children	2.04	1.93
After Children go to School	2.57	2.54
After Children Leave Home	2.38	2.41
Total	12.80	12.60

* Highest Possible Mean Score = 3.00

Table 15

Girls' Expectations of Working Throughout Various Stages of Family Life Cycle: Dietary Aide Sample

	Pre-Course					
	AC I	ACS I	ACLH I	Total I	MWW I	ATW I
AM I	.30**	.27**	.13	.56***	.04	.01
AC I		.29**	.15	.71***	.37***	.13
ACS I			.24*	.68***	.26*	.29**
ACLH I				.62***	.09	-.07
Total I					.32**	.15
MWW I						-.08

	Post-Course						
	AM II	AC II	ACS II	ACLH II	Total II	MWW II	ATW II
AE II	-.08	.08	.13	.09	.18	.18	.18
AM II		.38**	.49***	.36**	.72***	.19	.23*
AC II			.48***	.16	.77***	.25*	-.01
ACS II				.11	.73***	.25*	-.02
ACLH II					.59***	.32**	.01
Total II						.38**	.06
MWW II							-.13

Key: AE = After Education
AM = After Marriage
AC = After Children are Born
ACS = After Children go to School
ACLH = After Children Leave Home
Total = Total Expectations of Working
MWW = Married Women Working Scale

Factors Related to Interest in Occupational Training

Occupational education has been shown through test results, interviews, and the follow-up study to be meaningful and helpful for many students. Factors contributing to interest in occupational education are, therefore, of concern to educators. In the present study student background factors found to be significantly related to scores on the Interest in Occupational Training scale, Table 16, were father's education, SES, and self-concept. These findings agree with those in an earlier study. Post-scores on the Interest in Occupational Training scale showed a strong relationship in the present study to follow-up wage ($r = .50$) and a relationship significant at .01 to student self-ratings of employability on the descriptive rating scales.

Health Careers Sample

Basic Abilities and Attitudes Required for Success in Class and On-the-Job

Results for the health careers sample similar to those found for the dietary aide sample are shown when Tables 12 and 17, intercorrelations of academic ability, attitudes, and follow-up data for the two samples, are compared.

Success in Class. In both samples basic attitudes thought to be predictive of occupational success showed significant relationships to academic ability, particularly attitudes toward work. Attitudes toward health services jobs showed, for the health careers sample, a closer relationship to evidences of academic ability and achievement than that found in the comparable sample. Self-concept and attitudes toward working with others were significantly related to the converted index-of-success score for the health careers sample; similar positive but non-significant relationships were shown for the dietary aide sample. In the dietary aide sample job satisfaction was significantly related to self-concept. In the health careers sample this relationship was positive but not significant; however, job satisfaction was significantly related to GPA.

Employer Ratings. Few employer ratings were received for the health careers sample since the students were generally younger than those in other samples and outside work experience was not emphasized by the course. The ratings followed, however, the unexpected negative pattern shown for dietary aides.

Table 16

Factors Related to Interest in Occupational Training: Dietary Aide Sample

	IOT II	MEd	FEd	SES	C of S	FW	SRTE	ER	JS
IOT I	.26*	.21	.25*	-.15	.30*	.19	.19	-.23	.28*
IOT II		.01	-.02	-.41**	.35**	.50***	.31**	-.34*	.22
MEd			.60***	.05	.27*	.02	-.11	-.01	.27
FEd				.16	.16	-.05	.11	.04	.28
SES					-.39**	-.31	-.08	.42	.07
C of S						.30*	.33**	-.31	.38**
FW							.17	-.39	.18
SRTE								.03	.20
ER									-.16

Key:
IOT = Interest in Occupational Training Scale
I, II = Pretest, Posttest
MEd = Mother's Education
FEd = Father's Education

Table 17

Interrelationships of Academic Ability, Attitudes, and Follow-Up Data: Health Careers Sample[1]

	MC[2]	CIN	RA	NC	HST	ATW	AHSJ	C of S	AWO	ATS	FW	ER	FJS	JS
GPA	.35**	.28**	.21	.04	.11	.12	.18	.15	.20	.21	.11	.15	-.18	.69**
MC		.62***	.46***	.37***	.39**	.43***	.26*	.13	.18	.14	-.16	-.22	-.10	.19
CIN			.32***	.27*	.33**	.51***	.49***	.31**	.25*	.16	-.23	-.52*	.01	.20
RA				.57***	.39**	.26*	.30**	.10	.04	.06	-.06	-.30	.51**	-.14
NC					.31*	.24*	.07	.03	-.07	.05	-.27	-.28	.32	-.16
HST						.49***	.23*	.16	.22	.03	-.05	.06	.17	-.11
ATW							.35**	.35**	.25*	.08	-.20	.03	-.10	.08
AHSJ								.23*	.34**	.19	-.17	-.14	.16	.10
C of S									.33**	.27*	-.01	-.49	-.06	.17
AWO										.08	-.30	-.20	-.45*	.22
ATS											.27	-.01	.42*	.15
FW												-.34	.24	-.02
ER													-.47	.27
FJS														-.47

[1] Seeming inconsistencies in significance designation are due to wide variations in Ns associated with specific correlations.

[2] See Table 12 for Key to symbols.

***Significant at .001.
**Significant at .01.
*Significant at .05.

Follow-Up Wage and Job Status. No significant relationship was shown for this sample between follow-up wage and either evidences of academic ability or positive attitudes toward occupational education. Positive relationships were shown, however, between follow-up job status and 1) reading ability and 2) attitudes toward school.

Student Characteristics Related to Occupational Skills

When evidences of basic ability, attitudes, and occupational skills (Table 18) were compared for the health careers sample as opposed to the dietary aide sample strong relationships were shown between mark earned in course and teacher ratings on the descriptive rating scales. Significant relationships were found also between teacher ratings and other evidences of academic ability: reading ability and health services achievement test scores. Notably different from findings for the dietary aide sample were the many significant relationships shown in the health careers sample among teacher ratings on descriptive rating scales and scores on the four attitude scales included in the matrix.

Student Self-Ratings, Teacher Ratings, and Follow-Up Data

Teacher ratings indicated a slight negative relationship to the 15 employer ratings received in the study whereas correlations between employer ratings and student self-ratings on two descriptive rating scales were in a positive, but non-significant, direction. (See Table 19). An interesting significant relationship was shown between student self-rating on the Management descriptive rating scale and job satisfaction. Relationships among follow-up job status, self-ratings, teacher ratings and employer ratings were consistently negative for both samples. The small range in designation of job status may be a confounding factor. Results concerning the total units of vocational education of students were not definitive in the health careers sample since most of the sample had little background in vocational education at the secondary level. Relationships between teacher ratings and student self-ratings rarely reached levels of significance as high as .05.

Expectations of Working

Findings for girls' expectations of working during various periods of the family life cycle closely followed the pattern of the dietary aide sample and earlier studies in that most girls expected to work after they finished their education and to remain home while their

Table 18

Interrelationships of Academic Ability, Attitudes, and Occupational Skills: Health Careers Sample

	HST	NC	MC	BE	MGT	TE	AHSJ	ATW	C of S	AHE
RA	.39**	.57***	.46***	.17	.25*	.28**	.30**	.26*	.10	-.02
HST		.31*	.39**	.16	.13	.23*	.23*	.49***	.16	.43***
NC			.37***	.14	.20	.18	.07	.24*	.03	-.02
MC				.54***	.66***	.64***	.26*	.43***	.13	.32**
BE					.81***	.89***	.19	.30**	.14	.38***
MGT						.92***	.26*	.34**	.27*	.35***
TE							.26*	.32**	.18	.38***
AHSJ								.35**	.23*	.48***
ATW									.35**	.52***
C of S										.38***

Table 19

Interrelationships of Student Self-Ratings, Teacher Ratings, and Follow-Up Data: Health Careers Sample

	Self-Ratings		Teacher Ratings							
	BE	MGT	TE	BE	MGT	VOED	FW	FJS	JS	ER
SR: TE	.64***	.46*	-.10	.03	-.15	.13	-.17	-.75**	.39	-.14
BE		.74***	-.24	-.20	-.24	.25	-.33	-.61*	.49	.31
MGT			.48*	.32	.55*	.11	-.29	-.62*	.67*	.46
TR: TE				.89***	.92***	-.03	-.36*	-.10	.16	-.50*
BE					.81***	-.06	-.30	-.19	.16	-.23
MGT						.03	-.25	-.11	.17	-.58*
VOED							-.31	-.41*	.01	.14
FW								.24	-.02	-.34
FJS									-.24	-.47
JS										.27

children are small. At the time of posttesting girls' commitment to work at various stages showed positive relationships to scores on the Married Women Working scale, usually at the .05 or .01 level, indicating that the girls were thinking through the implications of working and developing more stable attitudes toward the very real possibility that they will work at least part of their married lives. Specific attitudes toward married women working are apparently disassociated from general attitudes toward work; neither expectations of working nor scores on the Married Women Working scale showed strong relationships to Attitudes Toward Work scores. Posttest mean scores for the girls' expectations of working were not significantly different from their pretest mean scores; change in their expectation of working after children leave home approached the .05 level of significance, however.

Expectation of Working	Mean Score Pretest	Posttest
After Education	2.99	2.91
After Marriage	2.51	2.57
After Children	1.60	1.58
After Children go to School	2.24	2.12
After Children Leave Home	2.12	2.35
Total	11.39	11.54

Factors Related to Interest in Occupational Training

Self-concept was the only variable significantly related, at .01, to scores on the Interest in Occupational Training scale for the health careers sample (r = .35).

Nurse Aide Sample

Basic Abilities and Attitudes Required for Success in Class and On-the-Job

Inspection of Tables 12 and 21 shows interesting differences in the interrelationships of academic ability, attitudes, and follow-up data for the nurse aide sample as compared with the dietary aides.

Table 20

Girls' Expectations of Working Throughout Various Stages in Family Life Cycle: Health Careers Sample

	Pre-Course						
	AMI[1]	ACI	ACS I	ACLH I	Total I	MWW I	ATW I
AE I	.20	.07	.15	.13	.21*	.19	.12
AM I		.40***	.31**	.27**	.67***	-.10	.08
AC I			.52***	.34***	.77***	-.01	.07
ACS I				.39***	.77***	-.14	.15
ACLH I					.69***	-.15	.01
Total I						-.13	.09
MWW I							.06

	Post-Course						
	AM II	AC II	ACS II	ACLH II	Total II	MWW II	ATW II
AE II	.33**	.15	.11	.22*	.44***	.13	.23*
AM II		.08	.31**	.45***	.66***	.27**	.17
AC II			.38***	.13	.57***	.22*	-.19
ACS II				.45***	.76***	.17	-.02
ACLH II					.73***	.23*	.17
Total II						.33**	.09
MWW II							-.01

[1] For Key, see Table 15.

Table 21

Interrelationships of Academic Ability, Attitudes, and Follow-Up Data: Nurse Aide Sample[1]

	MC	CIN	RA	NC	HST	ATW	AHSJ	C of S	AWO	ATS	FW	ER	FJS	JS
GPA[2]	.06	.11	.02	.10	.23	.13	.04	.26*	.32**	.20	.21	-.10	.60***	.07
MC		.40***	.57***	.52***	.59***	.29*	.17	.09	.34**	.07	-.08	-.11	.02	.29
CIN			.28*	.25*	.45***	.41***	.32**	.36**	.43***	.35**	.02	.54*	-.12	.30
RA				.61***	.53***	.27*	.15	.18	.19	-.14	.13	-.06	.36*	.01
NC					.43***	.18	.15	.17	.26*	-.10	.16	.21	.16	.22
HST						.40***	.25*	.27*	.36**	-.02	.24	-.23	.34	.05
ATW							.64***	.56***	.43***	.11	-.05	-.04	-.08	.20
AHSJ								.54***	.39**	.02	-.08	.14	.02	.21
C of S									.60***	.19	.22	.32	.02	.32
AWO										.24*	.15	.11	-.01	.48*
ATS											-.14	.02	-.08	.25
FW												-.20	.32*	.26
ER													-.17	.30
FJS														-.12

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[1] Seeming inconsistencies in significance designation are due to wide variations in Ns associated with specific correlations.

[2] See Table 12 for Key to symbols.

Variables indicative of academic ability and achievement performed much the same for the two samples but attitudinal relationships were much stronger for the nurse aides than the diet aides. Attitudes toward working with others seemed to be especially important for nurse aides; scores on the variable correlated significantly with academic marks and the converted index-of-success score, all attitude scales included in the matrix, and job satisfaction.

Success in Class. Teachers in the nurse aide sample were able to work with students of varied abilities and to raise them to an acceptable level of performance. There were no failures in the program despite highly significant correlations between mark achieved in the course and basic academic ability.

Employer Ratings. The 21 employer ratings received for this sample correlated positively with the converted index-of-success scores and in a positive, though non-significant, direction with self-concept and job satisfaction. Again, academic ability did not seem to figure importantly in employer ratings for students trained for entry-level jobs.

Follow-Up Wage and Job Status. The expected positive relationship was shown, for this sample, between follow-up wage and job status. Follow-up job status was also significantly correlated with cumulative GPA.

Student Characteristics Related to Occupational Skills

Strong interrelationships among academic ability measures and teacher ratings on descriptive rating scales were found for the nurse aide sample just as in the dietary aide and health careers samples, Table 22. Attitudinal measures were intercorrelated significantly among themselves and occasionally with evidences of academic success. Significant relationships between the basic attitudes considered here and occupational skills as assessed by teacher ratings included a slight relationship between attitudes toward health services jobs and total employability ($r = .27$). Scores on the Attitudes Toward Working with Others scale were strikingly correlated with all descriptive scale ratings in the matrix, all at the .01 level.

Teacher Ratings, Work Experience, and Follow-Up Data

Inspection of Table 23 reveals strong negative correlations between teacher ratings on descriptive rating scales and total units

Table 22

Interrelationships of Academic Ability, Attitudes, and Occupational Skills: Nurse Aide Sample

	HST	NC	MC	NA	BE	MGT	TE	AHSJ	ATW	C of S	AWO	AHE
RA	.53***	.61***	.57***	.41***	.35**	.44***	.41***	.15	.27*	.18	.19	-.05
HST		.43***	.59***	.55***	.50***	.48***	.52***	.25*	.40***	.27*	.36**	.16
NC			.52***	.34**	.32**	.37***	.37***	.15	.18	.17	.26*	-.21
MC				.55***	.56***	.54***	.58***	.17	.29*	.09	.34**	.10
NA					.88***	.83***	.89***	.19	.11	.11	.36**	.04
BE						.89***	.93***	.12	.10	.17	.32**	-.03
MGT							.91***	.21	.15	.22	.35**	-.03
TE								.27*	.18	.20	.36**	-.02
AHSJ									.64***	.54***	.39***	.27*
ATW										.56***	.43***	.41***
C of S											.60***	.27*
AWO												.13

Table 23

Interrelationships Among Work Experience Variables, Teacher Ratings, and Follow-Up Data: Nurse Aide Sample

	TE	BE	MGT	VOED	FW	FJS	JS	ER	HWH	TWE	P/U	R/U	TYPE I[1]	TYPE III[2]
TR: NA	.89***	.88***	.83***	-.44***	.11	.22	.32	.01	.18	.36	.47*	.38	.16	-.56**
TE		.93***	.91***	-.39***	.14	.22	.50**	.13	.27*	.52**	.61***	.40*	.59	-.58***
BE			.89***	-.44***	.09	.01	.49*	.27	.27*	.44*	.46*	.20	.67*	-.35
MGT				-.38***	.18	.11	.55**	.27	.22	.49*	.47*	.08	.53	-.27
VOED					.20	.19	.31	.05	-.01	.10	.27	.69***	.04	-.67***
FW						.32*	.26	-.20	-.08	.51	.22	.07	.59	-.26
FJS							-.12	-.17	.08	.07	.25	.10	-.44	-.28
JS								.30	.13	.43	.44	.80*	.61	-.78*
ER									.64**	-.12	-.49	-.03	.91	.01
HWH										.17	.11	-.08	.34	-.05
TWE											.68***	.08	.99***	-.40*
P/U												.51**	-	-.66***
R/U													-	.90***
Type I														.43

Key: NA = Nurse's Aide Rating Scale
HWH = Hours Worked at Home Weekly
P/U = Paid/Unpaid
R/U = Related/Unrelated to Course

[1] Type I Work Experience = 9 girls from Long Island high school

[2] Type III Work Experience = 37 girls from Classes Three and Five

of vocational education earned by students in the sample. Also shown, however, are positive but non-significant relationships between units of voed and 1) follow-up wage 2) follow-up job status and 3) job satisfaction. A strong relationship was found between units of voed and incidence of holding a job related to the course.

Follow-up wage, in addition to the aforementioned relationship to job status, was positively but non-significantly related to both total work experience and Type I, work experience for an outside employer. Total work experience was also significantly related to teacher ratings. Job satisfaction was negatively correlated with total hours of Type III, simulated work experience within the school situation. Job satisfaction was positively related to teacher ratings of student occupational skills and to having work experience related to the course.

A significant relationship was found between employer ratings and total hours the students worked at home. Hours worked at home were also related to teacher ratings.

Expectations of Working

The nurse aides' expectations of working during the family life cycle were similar to those of the other two samples in the present study with the commitment to work falling in degree between that of the health careers sample and the highly-committed dietary aide sample. In the three samples of the present study and in the sample of an earlier study (10) most girls expected to work after finishing their education, and many to work after marriage. In all four samples the girls showed least expectation of working when children are small. Only in the health careers sample were girls more committed to working after their children leave home than after children are in school; the more usual hierarchy was expectation of working after education, after marriage, after children go to school, after children leave home, and when children are small. Inspection of the matrix of expectations of working, Table 24, indicates a less strong relationship between expectations of working and attitudes toward married women working in the case of the nurse aides than for the other two samples in the present study. Posttest mean scores for the samples' expectations of working were not significantly different from their pretest mean scores; the downturn in their expectations of working after marriage approached significance, however.

Expectation of Working	Mean Score Pretest	Posttest
After Education	2.98	2.96
After Marriage	2.72	2.52
After Children	1.86	1.95
After Children go to School	2.56	2.49
After Children Leave Home	2.41	2.32
Total	12.48	12.23

Factors Related to Interest in Occupational Training

None of the selected Vs were found to be significantly related to scores on the Interest in Occupational Training scale for this group although self-concept, important in other samples, approached significance (r = .20).

Table 24

Girls' Expectations of Working

	Pre-Course						
	AM I	AC I	ACS I	ACLH I	Total I	MWW I	ATW I
AE I	.26**	.09	.20*	.17	.31**	-.04	.10
AM I		.30**	.36***	.25*	.61***	.18	.15
AC I			.38***	.25*	.71***	.23*	.26**
ACS I				.42***	.75***	.23*	.19
ACLH II					.69***	.03	.25*
Total I						.22*	.33***
MWW I							-.03

	Post-Course						
	AM II	AC II	ACS II	ACLH II	Total II	MWW II	ATW II
AE II	.31**	-.01	.31**	-.01	.30**	.06	.05
AM II		.25*	.46***	.38**	.77***	.21	.20
AC II			.32**	.17	.64***	.01	-.07
ACS II				.13	.70***	.22*	.09
ACLH II					.60***	.07	.06
Total II						.19	.10
MWW II							.30**

RESULTS: TEACHER REPORTS

A major objective of the present study was to help provide, by means of descriptive data, answers to questions raised by secondary schools and teacher-preparing institutions regarding occupational home economics:

1. What procedures are efficient and what standards reasonable for selection of students?
2. What instructional materials are useful?
3. What facilities, resources, and financing are needed for teaching and training?
4. What are the time demands on teachers?
5. What are the problems schools and teachers meet in setting up and carrying through an occupational course?
6. What are the educational and occupational backgrounds of teachers of job-related home economics courses?

Teachers submitted throughout the year records concerning various aspects of their occupational home economics programs and responded to questionnaires and checklists about relevant facts.

Background of Respondents

Eleven instructors taught the 16 classes in occupational home economics; in one dietary aide program there was a planned exchange of teachers for the first and second semesters of the course. In the case of a nurse aide class the original teacher left unexpectedly and was replaced by a substitute who was trained neither in nursing nor home economics. Ten of the teachers for whom information was available held bachelor's degrees, seven of which were in the field of home economics education, one was in nursing, one in speech, and one in science education. (See Table 25). Four teachers had master's degrees or the equivalent in home economics or education; all but one of the teachers had some graduate work beyond the bachelor's degree. Four of the respondents did not have prior experience teaching at the secondary level; most had work experience other than teaching, Table 25.

Table 25

Background and Experience: Participating Teachers

		Dietary Aides					Nurse Aides			
	1	2	3a	3b	1a	1b	2	3	4	5
Years of Teaching Experience:										
Elementary						6^1				
Junior High		2	½	6		6^1				1
Senior High	½	12	4½	4		6^1				5
Adult Education		2½		½		6^1		1		
Informal			*					*		6
School of Nursing					7					
Work Experience:										
Dietician							6	*		4
Business Office	*									1
Restaurant		*		*			½			
Nurse					*				*	
Research					*					
Nurse Aide						7				
Other		*						*		3
College Degree:										
BS	$*^2$	$*^2$	$*^2$	$*^2$	*	*	$*^2$	$*^2$	*	$*^2$
MS or Equivalent		$*^2$	$*^2$	$*^2$	*	*				$*^2$
Additional Graduate Work	$*^2$	$*^2$			*		$*^2$	$*^2$		$*^2$

[1] Substitute teacher, total of 6 years

[2] Home economics or education

Teachers participating in the study were asked to respond to a Likert-type questionnaire, "Teacher Attitude Toward Course." Responses were generally favorable toward the new occupational programs. Individual scores varied from a possible 50 as follows:

Teachers of	Pretest	Posttest
Nurse Aides	37-47	30-46
Health Careers Sample	41	44
Dietary Aides	44-46	37-48

Teachers tended to question their own training and experience more than the character of the students, Table 26. Only half the respondents, however, were completely satisfied with their students.

The teachers were questioned regarding professional courses, work experience, and other knowledges which they felt were helpful to them in teaching an occupational class. They were also asked to list professional courses and work experience which they felt they needed in order to more effectively teach this type of occupational home economics course.

THESE ARE NEEDED

College Courses:

- How to Develop Work-Study Programs
- How to Teach Remedial Reading
- How to Teach Sex Education
- Methods for Teaching Occupational Home Economics
- Principles of Guidance
- Student Evaluation
- Up-dated Foods and Nutrition Courses

THESE WERE HELPFUL

College Courses:

- Accounting
- Catering
- Child Care
- Dietetics
- Diet Therapy
- Family Living
- Foods and Nutrition
- Health and Home Nursing
- Home Economics Education
- Household Equipment and Home Management
- Institutional Management
- Occupational Information and Counseling

Table 26

Teacher Attitude Toward Course

Item	Number of Positive Responses* Pre-Course N=10	Post-Course N=10
1. I am very glad to have the opportunity to teach this course.	10	10
2. I think I will feel secure in this new teaching position.	9	9
3. I feel competent to teach this course.	10	9
4. Occupational education belongs in the high school home economics curriculum.	8	7
5. I am satisfied with the types and ability of students selected to take the course.	5	4
6. I would have preferred students of less limited mental ability.	3	3
7. I would have preferred students with a different background (socio-economic, ethnic, racial).	0	1
8. The formal training I have had in education is adequate for me to teach this course.	8	7
9. I believe that the amount of my teaching experience is sufficient for teaching this course.	8	8
10. I have had enough work experience to provide background for teaching occupational education.	10	8

*Teachers answered "strongly agree" or "mildly agree".

THESE ARE NEEDED (Continued)

Work Experiences:

- Hospital Work Experiences in the Various Departments
- Work Experiences in Foods and Nutrition
- Work Experiences in Health Service Jobs other than the Hospital

THESE WERE HELPFUL (Continued)

Work Experiences:

- Dietetian
- General Home Economics Teaching
- Housewife--Homemaker
- Office Jobs Providing Insight into Employer--Employee Relationships
- Professional Food Service Work
- Professional Hospital Work
- Public Health
- Teaching Health Aides

Other:

- Abundance of Enthusiasm for Kids
- Syracuse University HEOE Workshop
- Visits with Prospective Employers
- Work as Curriculum Consultant for NYS Bureau of Home Economics Education

One teacher wrote of her background:

> I found the combination of background experiences I have had all helped me to teach this course. It would be difficult to pinpoint any one area as being most important or valuable.
>
> The hospital background aided in recognizing the need to develop a trainee's understanding of hospital ethics and protocol as well as the need for empathy for the sick.
>
> Home Economics teaching experience gave me the background I needed to develop methods of presenting material, teaching management and understanding the problems of my students concerning subject matter, content level and their particular learning problems.

Background experience as an office worker aided me in understanding, and thus being able to present, some of the employer-employee, and employee to employee relationships. Experience in working with all kinds of people in close quarters and thus recognizing and adjusting to these problems is a type of experience to which many professional people have had no exposure.

My own trials and tribulations as an employer of a babysitter-housekeeper opened my eyes to some of the preconceived attitudes and notions many people have. It pointed out the importance of employees listening to and following directions. The contacting and interviewing experience I have found most helpful in contacting and visiting prospective employers and resource people.

Selection of Students

Seven teachers responded to a checklist related to criteria used in selecting students. In two schools students were placed in the course by others and the teachers did not comment. In Table 27 it can be seen that criteria most often used in student selection were student request, recommendation of teacher or counselor, level of achievement, need for work experience, and personal characteristics. The respondents generally approved the use of the original criteria. Those changing their ratings, however, commented that age was only important in regard to limitations placed on legal employment, seniors were not likely to drop out, work experience was not emphasized by the course, or that attitudes were more important than need for work experience.

Time Demands

Five of the teachers made prior preparation for teaching their occupational classes: three attended workshops the summer immediately preceding the course and two of these also made additional preparations for the program, Table 28; one attended a workshop the previous summer, and one worked for ten days organizing instructional materials and ordering supplies. All were reimbursed.

During the school year two-thirds of the teachers' time was spent in lesson preparation and classroom teaching; somewhat less than 15 per cent of their time was employed in routine department business, correspondence, and research reports; about ten per cent with student work experiences: contacting employers, scheduling and supervising

Table 27

Responses of Seven Teachers to Checklist, Considerations in Selecting Students

Criteria	Used in Selection	Rating Y	Rating N
1. Level of Achievement	4	4	1
2. IQ	1	2	1
3. Aptitude Test or Interest Inventory	2	2	
4. Age	5	3	2
5. Potential Dropout	2	2	2
6. Recommendation of Teacher or Counselor	7	5	1
7. Student Request	7	6	
8. Parent Request	4	3	1
9. Previous Work Experience	1	2	
10. Need for Work Experience	5	3	3
11. Personal Characteristics	4	5	
12. SES	1	2	1
13. Other:			
Interest in Food Service	1	1	
Attendance Record	1	1	
Health Record	2	2	

Key: Y = a satisfactory criterion
N = unsatisfactory criterion

Table 28

Pre-Teaching Time Demands

	Nurse Aide					Health	Dietary Aide		
Class	1	2	3	4	5	Careers	1-2	3-4	5-6
Workshop			30		15	10			15
Conferences:									
Counselors			1						
Advisory Committee			1						
Resource People/ Employers			1		8				
Instructional Materials		3	2		4				
Publicity			1						
Supplies		3	1		3				
Department Organization		4	2						
Total		10	39		30	10			15

work experiences, and conducting student and parent conferences; and, on the average, eight per cent in conferences with guidance counselors and school administrators, advisory committee members, and in public relations. (See Table 29).

Instructional Materials

The teachers involved in the pilot occupational home economics programs were asked to keep weekly records of learning experiences provided and instructional materials used in their classes. Relatively complete records were received from six of the nine participating schools. From these detailed teachers' records, a bibliography of books, periodicals, and teaching aids was compiled (Appendix).

For the most part, the occupational training classes seemed to be action-oriented with little time spent with the lecture method of teaching. All six respondents mentioned that role playing, field trips, laboratory practices, work experience, classroom demonstrations, and discussions with visiting dietetians and professional nurses made up the major part of their teaching methodology. Also, six teachers said that the few lectures they did deliver were given along with a heavy concentration of visual aids such as overhead projections and transparencies, films, film strips, charts, and teacher-made materials.

The lack of detailed curriculum guides presented a challenge to the teachers, as did the dearth of curriculum materials in the new field of occupational home economics. Respondents found the Syllabus (16) helpful for teaching the unit on orientation to the world of work.

Dietary aide teachers helped write--during the experimental programs--curriculum guides for use in the city; one of the nurse aide teachers helped write--prior to the course--a health services curriculum guide being prepared for use throughout the State.

All the respondents said that they had problems with students being unable to read, spell, and do simple mathematical calculations. Consequently, several of the teachers included units on remedial work in their curricula. Teachers commented that simple rewards, such as certificates and pins, aided a great deal in giving students a feeling of accomplishment for taking part in occupational training programs.

Financing

Six teachers tabulated monthly the total expenses incurred by their pilot programs, Table 30. The data did not include salaries

Table 29

Teaching Time Demands

Activity (Hours Per Month)	Diet Aide			Nurse Aide					Health Careers	Avg.	Per Cent of Total Time
	1,2	3,4	5,6	1	2	3	4	5			
1. Lesson Preparation	22½	109	12		50	24		36½	82½	47½	.32
2. Classroom Teaching	51½	49½	30		95	68		38	52½	55	.37
3. Scheduling, supervising and evaluating work experience	7	4	10			17		5½		9	.06
4. Routine department business and correspondence	13	44½	10		7	4		6½	9	13	.09
5. Conferences:											
Student-Parent	4	9	5½		1	3		6	4½	5	.03
Guidance	7½	5½	3½			1½		2½	2	4	.03
Advisory Committee	½	½	5½			½		1		1½	.01
Administration	2	4	4½		2	1		6	2	3	.02
6. Public Relations		4½	3			½		3	4	3	.02
7. Research Record Keeping	7½	6½	4½		3	3		7	9	6	.04

and certain capital expenditures but pointed out the nature of other costs involved in occupational classes. Expenses were categorized as instructional materials; supplies, which consisted primarily of perishables such as food; purchase, rental, and upkeep of equipment and visual aids; student and teacher uniforms; reimbursed teacher travel to work stations, conferences, and to consult with advisory committees; and miscellaneous items such as postage, phone, and field trips.

Initial equipment costs were highest for schools where the occupational classes were taught for the first time. For the health service classes, the area occupational centers were able to use equipment and supplies belonging to the practical nursing programs. The biggest expenses in the diet aide classes were for food supplies. The cost of supplies and equipment for the health service and diet aide classes rose in proportion to the amount of practical laboratory experiences the student had.

Teacher travel expenses also varied according to the amount of work supervision she did, employer contacts made, advisory committee meetings, and conferences attended. Consequently, travel costs had a direct relation to the extent of the student-out-of-school work experiences. The policy on uniforms varied from school to school. Some programs purchased uniforms for the students while in other classes the students bought their own clothing.

As can be seen in Table 30, costs for the occupational education program varied radically from school to school. In one program, a nurse aide class able to share equipment and supplies with classes training LPNs, total estimated costs were approximately $200; while another school tabulated expenses at $1700. Estimated costs reported from schools offering diet aide classes ranged from $400.00 to $3000.00 for the year long program. The wide variation in expenditures among schools for the occupational classes was related not only to differences in the amount of outside work experience, but also to differences in the length of time occupational classes had been taught in a school, whether or not the program was in a comprehensive high school or area center, the number of occupational classes in one school, and the particular administrative arrangements within a school system.

Facilities

Participating teachers indicated on a checklist the health service or food service facilities and equipment available to them and their rating of its usefulness.

Table 30

Teacher Reports of Expenses Incurred By Occupational Classes

Class Number	Instructional Materials	Supplies	Equipment	Uniforms	Teacher Travel	Misc.	Total $ Spent By Each School
Nurse Aide:							
1		Records Not Available					
2		Records Not Available					
3	153.53	22.00	34.00		5.00		196.53
4		Records Not Available					
5	129.16	8.26	1445.76		27.00	90.00	1700.18
Health Careers:							
1-5*	Estimated Average Cost of Total Program at $75.00 Per Month						
Dietary Aide:							
1,2	.85	301.31	28.00	98.00	2.60		430.76
3,4**	440.11	231.63	107.55	150.40	41.23	25.95	996.87
5,6	1000.00	800.00	873.00	45.00	250.00	100.00	3068.00
Total $ Spent by 5 Schools	1705.65	1363.20	2488.31	293.40	325.83	215.95	6392.34

*Sample Is Excluded from Itemized Total

**$150. Worth of Books Given to Diet Aide Classes by Food Executives Association

Nurse Aide and Health Careers Samples

Teachers of the nurse aide and health careers samples all indicated that practice in nursing skills was part of their classroom work, and one teacher also scheduled regular practical experiences at a nearby hospital. Five of these programs included, along with the nurse aide skills, additional laboratory work in food preparation techniques. Respondents noted that the most valuable facilities and equipment were mobile hospital-type units for teaching patient care and kitchen equipment for practice with diet preparations.

Two teachers commented that the lack of actual hospital or nursing home experiences was a serious handicap to the effectiveness of their programs. Teachers mentioned also that Mrs. Chase dolls, whirlpool baths, and special equipment necessary for preparing hospital diets would have been helpful in giving meaningful learning experiences to their students.

The health service facilities questionnaire contained a list of specific equipment which health aide workers may be expected to use on the job. The teachers were asked to check the frequency of use of the individual items in classroom practical work and to mark the degree of usefulness of each item of equipment. A summary of the reports of six health services' teachers appear with the instrument in the Appendix.

Dietary Aide Sample

Dietary aide instructors indicated on a food services facilities questionnaire that three major facilities were used in the total food service program: home economics department kitchen, school cafeteria kitchen, and faculty lunchroom. All the teachers said the home economics department kitchen units were desirable facilities; one teacher rated the school cafeteria kitchen as essential, another as desirable; and one teacher marked the faculty lunchroom desirable. Table 31 notes the regularity of use of food service facilities and the teachers' assessment of the need for each type.

One teacher commented that her biggest problem with facilities was the local school cafeteria dietetian's lack of cooperation with the occupational classes.

The teachers were asked to check on the questionnaire the frequency of use in the classroom laboratories of individual items workers may be expected to use on the job and were requested to mark the degree of usefulness of each item of equipment. In addition to items listed in Table 32 one teacher found essential: sugar and napkin dispensers, scoops, and sundae dishes.

Table 31

Facilities Used by Dietary Aide Teachers

Facility	1,2	3,4	5,6
Home Economics Department Kitchen Units	R**	R**	R*
School Cafeteria Kitchen		O**	O*
Faculty Lunchroom		O*	

R Used Regularly ** Essential
O Used Occasionally * Desirable

Table 32

Equipment Used by Three Food Service Teachers

Equipment	Frequency of Use		Opinion of Usefulness	
	Regularly	Occasionally	Essential	Desirable
Blender	1	2	3	
Broiler	2		2	
Cash register		1	1	
Chopper, mechanical		1	1	
Coffeemaker		3	2	1
Compartment steamer	1			1
Cafeteria counter				
Deep fat fryer		3		2
Electric slicing machine		1	1	
Freezer	3		3	
Grill	1	1	1	1
Mechanical dishwashing equipment	2		2	
Mixer	3		2	1
Ovens, convection				
Ovens, deck				
Ovens, microwave				1
Range	3		3	
Refrigerator, reach in	3		3	
Refrigerator, walk in				
Steam jacketed kettle				1
Toaster	3		3	
Trays	3		3	
Tray stands	1		1	1
Soda fountain		1	1	1
Uniforms	2		1	1
Vegetable peeler	1		1	1

Special learning experiences were made possible by facilities and/or equipment added especially for the course. In two schools the addition of a freezer made advance food preparation for particular functions much easier. Two teachers were able to include soda fountain and special diet preparation laboratories after blenders were purchased. A coffee urn, special knives, and uniforms contributed to catering service, and a grill and deep fat fryer to short order service. When teachers were asked what facilities or equipment they did not have but thought would add significantly to the training program, one teacher listed industrial dishwasher and a grill, and two others included soda fountain service equipment.

Teachers' Evaluation of the Pilot Program

Teachers were asked to indicate on an evaluation form items they believed were inadequate or could be improved upon the next time they taught the class. Items not checked presumably caused few problems. Ten teachers completed the questionnaire, Table 33. Major areas indicated by five or more of the teachers as needing improvement were facilities and resources, evaluation, course content, and student work experiences. Participating teachers seemed to have fewest difficulties in the areas of communications and financing.

The teachers were invited to comment about their problems. In relation to facilities and resources, teachers mentioned such difficulties as few available instructional materials, equipment and supplies arrived late, and insufficient institutional type equipment. Two teachers had troubles with too much content crowded into the course; two said there was not enough for the students to do. One teacher highly recommended that, for the nurse aide classes, the skills be taught and the supervision of practical work be done by a professional nurse. Concerning student work experiences, one teacher each reported that the advisory committee had helped little in securing work experiences, transportation of students to work sites was a problem, too often students were not old enough to work at public institutions, and students participating in afternoon hospital work centers did not get the same experiences as students in morning classes. Several teachers suggested that general department routines could be greatly improved if school administrators were more cooperative in assisting with activities such as field trips and if more clerical help were available. One teacher recommended that selection of students for the course be changed to eliminate those people who had no sincere interest in occupational training.

Table 33

Teacher-Indicated Problems, End-of-Year Evaluation

Item	Number of Teachers Responding (N=10)
1. Facilities and Resources:	
Class Room Space	2
Laboratory Space	3
Storage Space	3
Equipment	7
Supplies	5
Instructional Materials	7
2. Evaluating Students:	
Finding Time to Develop Evaluative Instruments	5
Measuring Changes in Attitudes	4
Measuring Changes in Skills	5
Assigning Grades	3
Course Work	2
Work Experience	2
3. Course Content:	
Establishing Objectives	5
Selecting Content	8
Planning Units of Work	7
4. Communications With:	
Parents	2
Students	
Guidance Personnel	2
Administration	1
Other Teachers	
Advisory Committee	3
Employers of Students	2
Others: Community	1

Table 33 Continued

Item	Number of Teachers Responding (N=10)
5. Student Work Experiences:	
Finding Enough Appropriate Work Experiences	5
Transportation of Students to Work	3
Obtaining Working Papers	
Arranging for Physical Examinations	
Obtaining Special Uniforms or Clothing	2
6. Department Routine:	
Need for Secretarial Help	2
Need for Filing System	1
Purchasing Supplies or Equipment	3
Scheduling Field Trips	4
7. Public Relations:	
Interpreting Program to Public	4
Obtaining Publicity through School Media	3
Obtaining Publicity through Mass Communications Media	2
8. Selection of Students for Course:	
Considerations in Selecting Students	4
Interpreting Program to Prospective Students	3
9. Financing:	
Preparing Budget and/or Requisition	2
Obtaining Funds	3
Other: School should Purhcase Watches with Second Hands and Loan to Students	1

RESULTS: REPORTS OF GUIDANCE COUNSELORS

Two major objectives of the study dealt with questions regarding student placement in occupational classes and the amount of guidance and counseling support needed by the students. Counselors were asked in the fall to respond to a checklist of possible criteria used when guiding students into the new home economics programs. At the conclusion of the courses the counselors were asked to rate the effectiveness of the criteria they had used and to indicate whether, in the light of their experience, other considerations might also be important.

At least half of the responding counselors had used as guides for referral of students into occupational courses: level of academic achievement, age of student, recommendation of home economics teacher or guidance counselor, student request, and personal characteristics such as lack of motivation (Table 34). Socio-economic status and aptitude tests were given little weight in student selection. The findings parallel the results of an earlier study (10).

In the post-course evaluation of the criteria used in student placement the counselors generally supported their primary judgments. Two counselors rated level of academic achievement as less important than they had originally, finding that the "level of instruction made few academic demands upon enrolled students" or that "attitude is more important." Two respondents felt that the most important criterion listed was that concerned with personal characteristics of the students. Considerations added by counselors to the checklist were attendance record and interest in the occupational area.

Guidance and Counseling Support

Counselors were asked, at the close of the year, to supply information about guidance and counseling support given students enrolled in occupational education classes.

Nurse Aide Sample

Students enrolled in area occupational centers were assigned guidance counselors in their home schools, with limited counseling service available at one of the centers. One counselor reported

Table 34

Responses of 16 Guidance Counselors to Checklist: Considerations in Selecting Students[1]

	Used in Selection		Rating		
Criteria	Y	N	Y*	N*	O*
1. Level of Academic Achievement	10	6	8	2	6
2. IQ	2	14	1	5	10
3. Aptitude Test or Interest Inventory	1	15		2	14
4. Age of Student	9	7	7	2	7
5. Potential Dropout	7	9	8		8
6. Recommendation of Teacher or Guidance Counselor	12	4	11		5
7. Student Request	13	3	12		4
8. Parent Request	5	11	7	1	8
9. Previous Work Experience		16	1	2	13
10. Need for Work Experience	5	11	3	5	8
11. Personal Characteristics	9	7	10		6
12. Socio-Economic Status	3	13	3	1	12
13. Other	2	14	2		14

Key:
Y = Yes
N = No
Y* = Satisfactory criterion in student selection
N* = Not a satisfactory criterion
O* = No response

---

[1] Data from Class One of nurse aide sample and from health careers sample were not available for this analysis.

working with individual students in resolving adjustment problems encountered at the area school. Counselors in the Long Island school reported that students in the program received their major occupational counseling from the teacher, working cooperatively with the guidance department. Another respondent from the same school counseled students mostly regarding poor attendance due to home problems. Counselors in the inner city high schools in the nurse aide sample helped students with post-high school plans and wrote also of vocational counseling by teachers of the courses.

Health Careers Sample

Reports of nine respondents from this sample indicated that routine guidance support was given students in the health careers classes. One, a grade counselor, wrote that support given his counsellees included "1. Regular, periodic interviewing of students to determine progress and help resolve any problem and motivate. 2. Appointment for interview made at request of student to help overcome some difficulty which has occurred."

Dietary Aide Sample

Counselors in the three central city high schools making up the dietary aide sample referred to vocational counseling by teachers of the occupational classes and to efforts made to shorten students' programs so they would be available for work and so "other areas of studies would not be seriously impaired." In at least one school tutorial services were offered, as well as counseling help as extensive as the student desired.

Reasons Why Students Dropped Out of Class or School

Counselors were asked to indicate reasons for students' dropping out of school or class. A total of 28 counselors provided information.

Nurse Aide Sample

Eight of the 12 respondents in this sample, which included three home school counselors of students enrolled in an area occupational center, one inner city counselor, and four from the Long Island school, wrote that none of their students enrolled in a nurse aide course dropped out of school; two counselors indicated that students dropped out of school because of pregnancy (one of whom was able to graduate because of home study) and one counselor checked "needed at home". Students also left school to work. One respondent wrote, "The majority of students who dropped out of their home school and consequently had to be dropped by the Center were actually encouraged to leave school by their home school." Just one of the 12 responding counselors in the nurse aide sample listed a student as having dropped the class although remaining in school; and in this case the student was dropped from class by the teacher. Counselors from one school in the sample, Class One, did not supply data.

Health Careers Sample

One counselor of the nine respondents indicated that students in the health careers classes had left school because of poor academic marks and lack of interest. Reasons, checked by the nine counselors, why students had dropped the class though remaining in school were:

Reason	No. of Counselors Checking
Class not challenging enough	4
Did not like occupational area	7
Low marks	5
Disruptive influence	3
Too heavy a schedule	2

Dietary Aide Sample

Three of the seven counselors responding for this group checked one or more of the following reasons why students enrolled in the diet aide program left school: pregnancy or needed at home. One counselor wrote that a student remained in school but left class because of a too-heavy schedule; two counselors wrote that dislike for the occupational area was the reason why some students left the diet aide class, although they remained in school.

Observed Student Change Attributable to Occupational Course

Counselors were asked whether they had observed positive changes--such as increased confidence, improved attitude toward school, better attendance--in students enrolled in occupational home economics.

Nurse Aide Sample

Seven of the 12 respondents observed positive changes in their counsellees, and five reported no visible change. Two of the counselors felt the students were more thoughtful about their post-high school plans and two noted better attendance in some cases and better overall attitude toward school. One wrote:

> Several students improved in all areas and completed 11th year (crucial for potential dropouts). Of value (though intangible) was the fact that a concrete goal was established.
>
> One source of dissatisfaction and considerable disruption was the inability of the program directors to arrange for the work (in hospitals) phase of the program. The children had been promised this before enrolling in the program.
>
> The failure to be able to follow through on this was severely damaging to morale.

Health Careers Sample

Five of the nine responding counselors in this sample observed no change in students enrolled in the Health Careers course; four observed positive change, especially in interest in health services. One counselor wrote of the improved attitude toward school manifested for some students by their "interest in this course and their improved grades."

Dietary Aide Sample

Five of seven respondents observed positive change, one saw no change, and one was undecided. Two counselors cited improved attendance and stronger desire to finish high school. Typical responses were: "I feel that many of the students show an improvement in self-confidence and in the ability to assume responsibility," and "Subject teachers noted increased interest and effort."

DISCUSSION

Quality of Instruments

Major measuring instruments developed for the present study included achievement tests, nurse aide descriptive rating scale, and an attitudes toward health services jobs scale. Validity of the instruments was established through review of literature and extensive consultation with a distinguished panel of health educators. The attitude scale, additionally, was developed from responses to an open-end questionnaire which provided vocabulary and frame of reference of students similar to those participating in the study. Contributing to the validity of the two achievement tests used in the study--dietary aide and nurse aide versions--were tables of specifications balancing course content and testing at three cognitive levels.

A major problem in the development of instruments for the present study was achieving a consensus of experts on the definition of a nurse aide or dietary aide. In some hospitals the duties of the nurse aide are extremely limited; in others, particularly State hospitals, responsibilities may be extensive. Dietary aides, also, may in some cases work closely with a dietitian and thus have an opportunity for considerable training and responsibility whereas in other cases "dietary aides" do little more than deliver trays. These differences in job specifications were interesting since the earlier study of food service classes had shown striking uniformity of job responsibilities in food service operations whether large or small, private or institutional.

Acceptable reliability of instruments was demonstrated through pretesting and statistical analysis of the attitudes toward health services jobs scale and of health service items for the achievement tests, and through establishment of interrater reliability of the nurse aide descriptive rating scale.

Course Effectiveness

Index of Success

The rank correlation is generally accepted as a suitable statistic for use in small non-random samples. An index of success was developed as a means of measuring student progress toward the objectives of the course which used student ranks on the four general employability descriptive rating scales: Becoming Employable, Management, Sanitation, and Safety; Dietary Aide or Nurse's Aide rating scale; Attitudes Toward Work and Attitudes Toward Health Services Jobs scales, and dietary aide or nurse aide version of the achievement test, Preparation for Employment in Health Services. Skills were thus heavily weighted in the index, as they were in the mark assigned students by the teacher of the class. Such weighting was felt to be justified by the nature of the students and emphasis of the course. The index reached concordance at least at the .05 level of significance except in the case of a nurse aide class taught in an area occupational center, which was thereby excluded from the analysis. Student ranks on the index were compared with their ranks on selected background characteristics, amount of supervised work experience, and motivation for enrollment as spelled out by a major objective of the study.

Variables found most likely to be associated with the index in an earlier study (10) were self-confidence, academic ability, attitude toward school, and attitude toward working with others. In the present study academic ability, as can only be expected, was again often related significantly to the index as were attitude toward working with others, self-concept, total hours of work experience, and attitudes toward home economics. Teachers in the present and earlier studies achieved notable success in strengthening students' self-concept, positive attitudes, and motivation to try harder in academic areas.

Changes in Pretest and Posttest Scores

The difference between posttest and pretest scores was used in the present study as a second measure of course effectiveness. As shown in the earlier study, significant changes were not always in the positive direction. In the study being replicated post-scores most often showing gains were those on the achievement test, Interest in Occupational Training attitude scale, and both teacher rating and student self-rating on the Becoming Employable descriptive rating scale. Findings for the present study were similar in regard to the achievement test and attitude scale and for student self-ratings on the Becoming Employable scale. Teacher ratings on the personal characteristics scale rose significantly in three classes and fell in another. In another class teacher ratings on the Sanitation scale fell significantly. The downturn in teacher ratings can probably be attributed to dedicated teachers judging their students more stringently post-course than they had at the beginning, rather than an actual decline of student skills on these dimensions.

The many significantly higher self-ratings of dietary aides at the conclusion of the course suggest heightened self-esteem and confidence in their occupational skills. The strong work experience program for this sample may have contributed to these results.

Scores on the Attitudes Toward Work scale rose significantly in seven of the 16 classes in the present study and in only two of 12 in the earlier evaluation (10). In both studies scores on the attitude scale went down in one class. The Attitudes Toward Work scale, developed in the pilot study in the series of home economics occupational education evaluations, showed generally stronger relationships throughout the present study than in earlier studies. The instrument has as its rationale the measurement of attitudes of young people both toward their responsibilities as employees and their rights. In the earlier study gain scores were made in two highly-professional courses and the loss occurred in a class of more-able students who had a strong program of outside work experience. The hypothesis was that the girls in the latter case had become disillusioned with the realities of their low-level jobs. In the present study scores on the instrument fell significantly in the nurse aide class that had expected outside work experience opportunities that did not materialize whereas classes in which scores on the scale rose significantly were spread across the total sample. Perhaps such diversity can be accounted for by the general tenor of the times in which the rights of the entry-level worker are increasingly acknowledged. No doubt teachers are emphasizing more and more development of students' ability to recognize reasonable and fair treatment rather than advocating unquestioning conformity to employer demands.

The Attitudes Toward Health Services Jobs scale expresses many idealistic, selfless attitudes of young people and the significant downturn in four classes of scores on the instrument was not surprising. Noteworthy, however, are the facts that dietary aide classes, in particular, seemed to see themselves more oriented to food service than health services and that the two nurse aide classes showing lower posttest than pretest attitude scores were two inner city classes that did not have work experience opportunities to see what the jobs were like in the real situation.

Scores on the attitude toward married women working scale went down significantly in two inner city dietary aide classes. Girls in inner city classes tended to show a greater commitment to working throughout their lifetimes than girls in other classes, probably reflecting the pattern of their own mothers' lives. The emphasis in these two classes on adequate provision for the care of children of working mothers as well as work experience in the department nursery school may have encouraged the students to plan to stay home with their children while they are small.

Correlation Data

In the interest of clarity correlation data were largely discussed in the section, Results: Correlation Matrices. A few arguments remain to be made, however.

Negative relationships for the nurse aide sample between 1) teacher ratings and total units of vocational education and 2) job satisfaction with simulated work experience are not to be interpreted as attacks on a strong vocational education background or on simulated work experience but rather point up the fact that some less-able students tend to be enrolled in vocational courses, the secondary classes that offer them the most hope for success. Such students, conceivably, also spend more time in simulated work experience activities than others in the class who move quickly into paid outside jobs. There is some evidence in the present and earlier studies that more-able students are more satisfied with their jobs; for example, the strong relationship for the health careers sample between GPA and job satisfaction. The other side of the argument is that whereas students in interviews endorsed a strong background of home economics courses prior to enrollment in occupational education classes more-able students who do not have such a background can still do well. The latter implication has importance for the enrollment of boys in home economics occupational education classes since they do not often have a background of extensive home economics.

Negative relationships between employer ratings and other variables may be explained by a tendency for some employers in youth programs to rate students more highly than employers in private businesses commonly do. A contributing factor may be, also, that older students--both in the present and in earlier studies--tended to be less able but they were in a position to look for permanent jobs and may for this reason have been more favorably regarded by their employers than younger, temporary workers.

Student Interviews

Similarity of interview responses of students in the present study to those in earlier studies showed once more that occupational home economics programs which follow the guidelines set by the Panel of Consultants on Vocational Education (15) and expanded by the Bureau of Home Economics Education are highly relevant and meaningful to the population they are intended to serve. As in earlier studies, respondents found background work in home economics helpful and desirable preparation for occupational education classes. Repeated also was strong student endorsement of classes with many and varied activities, especially simulated work experience and field trips to places of employment and possible further training. Once again student responses showed touching appreciation for the opportunity to make new friends and help from teacher-confidantes in solving personal problems.

Work Experience

Opportunity for outside work experience is the facet of occupational education programs that clearly sets them apart, in the minds of the students, from other secondary school courses. The importance to the student of satisfactory work experience of the desired amount cannot be overemphasized. Recommendations of the Bureau of Home Economics Education that teachers prepare students for a cluster of jobs rather than one specific job were pointedly justified in view of the experience of inner city classes training nurse aides. The students expected outside work experience, but limited attempts by teachers to secure satisfactory opportunities quickly ran up against requirements that nurse aides be 18 years old. Rigid scheduling of these classes seemed to prevent training girls also for dietary aide jobs even though types of diets were studied and, in some nurse aide classes, food was prepared. The Long Island class, on the other hand, trained for a number of health services jobs, including both nurse aide and dietary aide. Adoption of such a strategy by inner city classes would allow girls to work as dietary aides at 16, thereby offering an opportunity to adjust to employment, learn hospital protocol, and earn at least the minimum wage. Students who so desired could change to nurse aide jobs when age requirements were reached. Dietary aide jobs at the time of the study were not only available but the part-time nature of the work fit in well with schedules of students still in school.

Teachers of dietary aide classes in inner city schools resisted suggestions that students work voluntarily in hospitals as part of their training, a system which students in one of the area occupational centers enjoyed. The inner city teachers were doubtless justified in this view because of transportation complexities and expense and by the availability of paid jobs for their students. When no effort was made to provide paid outside work experience, however, volunteer work experience seemed to be a valuable learning experience.

A key finding of other studies was the need for school personnel, the most effective agent of whom was the teacher herself, to open the way to the student's first job. In area occupational centers the typical heavy teaching load precludes much effort in this direction on the part of the teacher. Transportation difficulties in rural and suburban areas compound the problem. Experience in earlier studies has been that once students are established in a first job they can and do move into other positions on their own, and that an alarming proportion of students remain unemployed or underemployed unless help from the school in securing that first job is forthcoming. An amusing contrast is the rare aggressive student who quickly finds herself a job, sometimes to the discomfiture of a teacher who considers the student not quite ready. Interviews with both students and employers indicate that students want jobs and employers are eager to hire them early in the occupational education program. When students are working classroom experiences are much more meaningful, students can share triumphs and problems with other members of the class, and the teacher gains valuable insight in planning for her course.

The health careers classes, composed of generally younger students, did not plan in the first experimental year to include outside work experience as part of the course. Plans have since been made, however, to add this dimension.

Follow-Up Study

Half of the 249 students who completed occupational home economics courses held jobs during the following summer. One-fifth were unable to find jobs, one-fifth did not respond, and others did not seek work. Just one of the respondents went on for further education. Mean employer ratings were higher for students in the present study, where some ratings were made by employers of students in government-sponsored programs, than in the employer ratings of food service and child care center aides participating in the earlier study. Employers in the youth programs were sometimes relatives of students and, in any case, more lenient than employers in private business. Mean satisfaction of the students with their jobs was also higher than in the earlier study. In general, however, employers --whether in private business or youth programs--were satisfied with their employees and the students were reasonably satisfied, and in some cases highly pleased, with their jobs. Respondents tended in early communications to be well-satisfied and excited about working and more likely to report problems as time wore on. Respondents were apparently able to hold their jobs without difficulty and their problems were relatively few. The most frequent complaint was the part-time nature of dietary aide jobs, an advantage during the school year; but during the summer some girls wanted to work full-time. A few girls moved from part-time dietary aide jobs in private hospitals to full-time Youth Corps jobs.

Students whose classes had a strong program of work experience--the dietary aide sample and Long Island nurse aide class--were more likely to hold jobs during the follow-up period, to be earning a higher wage, and to be employed full-time. The median for all classes, however, was at least $1.50 an hour as the teachers wisely insisted on the minimum wage for their students.

Seeking jobs paying the minimum wage, introducing students to possibilities for further education, and emphasizing employee rights help the teacher win the confidence and interest of her students and protect her from the rare criticism that she is preparing students for menial jobs. Most young people--whatever their economic and academic status--start working at entry-level jobs of the type described here. An occasional guidance counselor in earlier studies and other educators have suggested that occupational education has much to contribute for all students--whether potential dropout, terminal, or college-bound. Helping students plan to climb as far as their abilities permit on the "career ladder" is a major responsibility of teachers of occupational education and the success of the whole program may well depend on her efforts in this sphere and the cooperation of the administration in facilitating field trips and other adjuncts of this phase of the course.

Dropouts

Sixty-four of 313 girls enrolled in health services programs failed to complete the course. Some dropped out of school for familiar reasons: pregnancy, marriage, low marks, or needed at home. Other students remained in school but dropped the class because of heavy schedules or lack of interest in the occupational area. A few were considered disruptive and were transferred to other schools. A finding unique to this study in the series of evaluations of occupational education programs was the number of students found by their teachers to be enrolled in inner city nurse aide classes when they were academically able to pursue professional nursing programs. In two classes teachers were able to persuade such students to enroll in courses required for nursing degrees even though changing programs meant remaining in high school an extra semester or year. Such misplacement of students was by no means universal in the inner city. One high school principal, in particular, pointed out the care taken in her school to place students commensurate with their abilities in a hierarchy of health services programs which proceeded from practical nursing through nurse aide to dietary aide.

Reports from Teachers and Guidance Counselors

Participating teachers supplied a wealth of information about their programs. Responses to a scale measuring attitudes toward teaching the course were stable throughout the year and generally favorable. Most felt adequately prepared to teach the courses although one felt less sure of her training post-course than she had at the beginning and two, post-course, felt less sure of their work experience. Teachers in the present study agreed with teachers in earlier studies that they needed more work experience in entry-level jobs and college courses in foods, evaluation, and guidance. Teachers in the present study mentioned additionally courses in occupational education, remedial reading, and sex education. Rather surprising was the fact that no teacher listed further courses in health or nursing as needed although courses the teachers had previously had in health and home nursing were listed among those they found helpful in teaching the classes. Apparently the usual health and home nursing courses home economics teachers have as part of their preparation and reliance on team teaching had enabled the teachers with home economics degrees to meet requirements of the course. Nurse-teachers, on the other hand, mentioned a need for more foods and educational methods courses. In two of the nurse aide classes taught by nurses the instructors complained of insufficient course content. The two, in the absence of a city curriculum guide which at that time was in process of development, were teaching only nursing skills rather than including also the major concepts of management and orientation to work prescribed by the State syllabus.

As in the earlier study occasional guidance counselors were encountered who explained that they were too busy processing records for students who were college-bound to supply background information on students enrolled in the occupational education programs. Some data were therefore not available for use in the present study; in other instances teachers of the programs had the burden of collecting guidance data in addition to their own responsibilities for supplying information for the research study. Some counselors, also as before, failed to acquaint themselves with the new programs despite the best efforts of the teachers. Most counselors were, of course, cooperative and interested. In both studies one teacher was appointed counselor for her occupational education students. Such a system, where the teacher is qualified for the dual-position, seemed to work well. One highly successful dietary aide program was offered in a school which provided tutorial services and counseling help as extensive as the student desired. The same school gave credit for volunteer service and showed evidence of other enlightened programs beneficial to all students--potential dropout, terminal and college-bound alike.

CONCLUSIONS AND IMPLICATIONS

The present study was undertaken as a replication of an earlier evaluation of occupational home economics programs. The major interest in the two studies was expected to be the change from food service and child care to health services jobs as the focus of occupational training, and conclusions reached from the present study--especially for the dietary aide classes--were expected to closely parallel those in the earlier evaluation. An unplanned-for factor, however, evolved as the most absorbing: the heavy incidence of student participation in government-sponsored youth programs, which enabled the investigators to probe students' feelings toward such jobs and to observe the stepping-stone effect of the jobs to employment in private business. According to their replies to follow-up communications most girls preferred jobs in private business but some of those working in youth programs wrote of the value of the programs in teaching them responsibility and dependability and in acquainting them with neighborhood problems. Teachers of the dietary aide classes, the only inner city program involving outside work experience, were highly successful in moving students from government-sponsored programs into jobs in private business. Students not yet ready for private employment were found, at the time of the follow-up study, to be holding interim jobs in youth programs. Such programs provided desirable entry-level jobs as teacher aides, tutors of English, and clerks in government offices; yet students holding these jobs commonly wrote in the follow-up period that they would have preferred private jobs--this despite the sizable proportion of families in the study who were presumably on welfare and the prevailing notion of cycles of welfare dependency. An interesting study would be the determination of the point where young people--all of whom have been found in the three studies in the present series of evaluations of occupational home economics programs to want to work, to attach much status and gain personal satisfaction from employment--give up and turn or return to welfare dependency.

Reference has been made to difficulties encountered in programs which prepared students for only one job. Recommended, rather, is preparation for a cluster of related jobs. Students in two inner city classes in the present study were frustrated by age limitations when they sought jobs as nurse aides, yet dietary aide jobs in hospitals were readily available to younger students. A more flexible program training for several entry-level health service jobs, such as that offered in the Long Island school, not only secured work experience opportunities but also introduced the girls to possibilities for a wide variety of health services jobs. Teachers of the classes were shown in all three studies in the series to be the most effective agents for securing work experience opportunities. Where teachers had heavy teaching schedules, as in the area occupational centers, attempts at securing paid work experience for students were either non-existent or largely ineffective. Evaluating student success, especially of those trained in area occupational centers, in securing employment is limited by the short follow-up period in the present and earlier studies. A longitudinal study would give a more accurate appraisal of the success of the experimental courses in helping students secure jobs.

Teachers in all three studies have insisted on the minimum wage for their students, which helps raise the status of entry-level jobs and defends against criticism of the courses by those who feel entry-level jobs are menial. Instructors of the new programs are obligated by 1968 amendments to the Vocational Education Act to keep constantly before the students the idea of the jobs as a first step on a career ladder. Extensive use of resource persons and field trips to acquaint students with possibilities for further training and advancement has been shown in this regard to be meaningful to the students. A striking difference in opportunities for advancement is noted in the present study as opposed to the earlier studies of food service workers who can and do advance in their jobs without additional formal training. Health service workers are more restricted in that higher level jobs usually require extensive further education; for example, a nurse aide cannot become a licensed practical nurse without formal training. Interviews with potential employers indicated that State hospitals provide opportunities for advancement unusual to health services institutions; in special cases employees are able to pursue training as practical or registered nurses, according to their capabilities. Other avenues of advancement are also possible and fringe benefits usually exceed those of local hospitals.

Data obtained from student background questionnaires suggest that students enjoy participation in volunteer activities, yet few are involved. Greater recruitment of inner city students by service organizations would seem to benefit the students, the community, and the organization itself. Student background data also showed that few had regular allowances or any other training in money management; but a majority of the girls--especially those living in the inner city--were doing much of the family shopping. From teacher reports came evidence of student request for sex education. Both consumer education and sex education are major concepts included in experimental home economics occupational education classes in ongoing research, a four-state study, which features also a curriculum package developed by Hughes (6) concerned with training girls for their dual role of homemaker-wage earner.

In addition, conclusions from earlier studies which remain relevant are:

1) Availability of entry-level jobs in occupations related to home economics for the academically less-able student who is dependable, able to get along with others, and willing to accept supervision.

2) Employer acceptance of course trainees, confirmed by the follow-up of students into summer or permanent jobs.

3) Ability of participating teachers to work successfully with students of varying abilities and to bring them to at least minimum standards of employability.

4) Strong emotional support and guidance required by some students.

5) Students left to their own devices not faring well in finding jobs.

6) Desirability of work experience both under simulated conditions in class and for an outside employer to acquaint students with employment possibilities, build self-confidence, and develop occupational skills.

SUMMARY

The Problem

With the passage of the Vocational Education Act of 1963, home economics was redefined to include not only education for homemaking, but also education for gainful employment in jobs requiring home economics understandings and skills. The Department of Home Economics Education at Cornell University has assisted with the evaluation of new home economics occupational education programs as they have been established throughout the State, in cooperation with the Bureau of Home Economics Education, State Education Department. The current study is the third in a series of program evaluations, the first of which was a pilot study of a single food service class (7) and the second of 12 classes in home economics occupational education which prepared child care aides or food service personnel (10). The present study is concerned with 16 classes training for health services occupations. Evaluation instruments developed in the earlier studies were refined and new instruments developed for use in the present study.

Objectives

The major objectives of the study were: 1) to evaluate student progress toward specific objectives related to knowledge, job competences, and attitudes toward work, 2) to determine the relationship of student success in the course and on the job to selected student characteristics, and 3) to provide by means of descriptive data answers to questions of general interest to occupational education regarding student selection, effective curriculum materials, facilities and financing, guidance and counseling support required, time demands on teachers, and teacher educational background and experience.

Method

Description of Samples

Sixteen classes, selected by the Bureau of Home Economics Education for inclusion in the present study, were treated as three different samples. Two Upstate area occupational centers, two inner city high schools and one Long Island school trained girls primarily for jobs as nurses' aides; six classes in three inner city high schools prepared dietary aides; and five classes in a single inner-city high school represented an introductory course to health careers. Classes met for one to two periods daily in local schools and for three periods daily in area centers.

Ages of students ranged from 15-19 in the dietary aide and nurse aide samples and 15-18 in health careers classes. Mean ages were 16.7, 17.3, and 15.7 respectively. Scores on Stanford achievement tests of basic abilities (13) showed a range for numerical competence of from the first to 36th percentile for diet aides, 1-76th for health careers sample, and 1-52nd for the nurse aide sample. Comparable reading scores fell in the 1-38th percentile for dietary aides and 1-60th for the health careers and nurse aide samples. Such scores indicated that students varied in ability level from very poor to average, when broadly classified. Twenty-three per cent of the diet aide sample and 21 per cent of the nurse aide sample were considered by their guidance counselors to be handicapped by poor physical or emotional health or by cultural background. Comparable information was not provided by counselors of the health careers sample. Socioeconomic status of families of students enrolled in the occupational education classes was generally low for all three samples. Fathers tended to hold blue collar jobs and working mothers to be employed in service occupations. In 7 of the 16 classes no member in at least one family was reported to be employed.

The three inner city schools offering dietary aide programs had for facilities traditional foods laboratories. One of the three also conducted a department nursery school for whom the dietary aide classes prepared and served food.

Health careers classes used a combination food service-health services laboratory. The Long Island class and two inner city nurse aide classes had similar facilities. The two area occupational centers training nurse aides had spacious, well-equipped laboratories and one of the classes made use also of hospital facilities where students trained a half-day weekly.

The dietary aide classes, Long Island nurse aide class, and classes held in area occupational centers were all taught by home economists who included in their courses the three major concepts prescribed in the State home economics occupational education syllabus: management at home and on the job, orientation to work, and development of occupational skills (16). Two nurse aide classes were taught by nurses who emphasized nursing skills and the health careers course, taught by a nurse-educator, had as its focus student acquaintance with possible health occupations.

Collection of Data

Evaluation instruments to measure course effectiveness were administered at the beginning of the course and again at the end of the year's instruction and practice. The instruments included an attitudes toward work scale, tests of knowledge and comprehension, a motivation-for-enrollment questionnaire, attitudes toward married women working scale, and attitudes toward health services jobs scale. Student background information was assembled from school records and a personal data sheet. Each student was interviewed at the conclusion of the course. A series of descriptive rating scales to measure general qualities related to employability and a scale to rate a specific occupational skill, nurse aide or dietary aide, were administered early in the course and again at the end of the school year. Both teacher ratings and student self-ratings were obtained. The following information from participating teachers was assembled: an attitude questionnaire, time and cost records, facilities checklist, bibliography of useful instructional materials, report of students' work experience, educational and occupational background, and end-of-year evaluation. Newly-developed instruments are included in the Appendix; instruments developed in earlier studies are found elsewhere (7, 10).

In addition to visits to the pilot programs in the fall and spring by the project leader and staff to collect pretest and posttest data, visits were made midway through the programs to observe classes, answer questions, and interpret evaluation instruments. A spring conference of teachers, research staff, and Bureau of Home Economics Education personnel was held. At the conclusion of the occupational classes students who were to remain in school for another year were followed into their summer jobs; for graduates and dropouts the follow-up continued for six months.

Development of Instruments

Some evaluation instruments used in the present study were developed in earlier research projects (2, 7, 10). Instruments developed expressly to meet the objectives of the present study were:

1. Attitudes Toward Health Services Jobs scale.

2. Descriptive rating scale to measure specific nurse aide skills, designed for use with four general scales: Becoming Employable, Management, Safety, and Sanitation.

3. Two versions of an achievement test, Preparation for Employment in Health Services, one for dietary aides and one for nurses' aides.

4. A health services facilities checklist.

Content validity of the instruments was established through review of literature and consultation with a distinguished panel of health educators and administrators. Interrater reliability of the descriptive rating scale was established through analysis of variance; further reliability of instruments was determined by item analyses of pretested instruments and use of the Kuder-Richardson formula and the split-halves technique.

Data Analysis

In addition to analyses necessary to determine quality of instruments, two major analyses of data were made in the study. One involved the compilation of an index of student success in individual occupational classes and correlation of each index with relevant Vs. The second was concerned with correlation of test scores with relevant Vs for each of the three samples.

Results: Quality of Instruments

The Attitudes Toward Health Services Jobs scale had a split-half reliability coefficient of .93 when adjusted according to the Spearman-Brown formula. Reliability of the achievement test, determined by the Kuder-Richardson procedure, was .75 for the nurse aide version of the test and .71 for the diet aide form. About 70 per cent of the items on both versions of the test had acceptable indices of discrimination; other items had adequate D-values when results of a pretest of the instrument on a sample of vocational students similar to those in the study were analyzed, but did not reach desirable levels for post-course administration of the test to the nurse aide and diet aide samples. In each test a few nondiscriminating items were included to meet the demands of the tables of specification. Interrater reliability of the Nurses' Aide descriptive rating scale was established as .81 according to the Winer technique using analysis of variance (18).

Results: Course Effectiveness

Index of Success

An index of student success was developed by ranking students according to posttest scores on eight instruments: the four general descriptive rating scales, nurses' aide or dietary aide scale, Attitudes Toward Work, Attitudes Toward Health Services Jobs, and achievement test. Concordance coefficients for the indices reached significant levels except for one nurse aide class taught in an area occupation center; the class was therefore excluded from the analysis. Student rank on the index of success was compared with rank on SES; amount of supervised work experience; academic achievement; total units of vocational education courses; and subsections of the Student Questionnaire, which were thought to be motivating factors for enrollment in an occupational education class. Variables found most often associated with student success in occupational home economics were evidences of academic ability and achievement, positive attitude toward home economics, and positive self-concept. Total hours of work experience and positive attitudes toward working with others were also important. In the case of instruments which were administered twice during the school year Vs correlating significantly with the index usually represent post-scores.

Differences Between Pretest and Posttest Scores

Significant changes between pretest and posttest scores were found most often for Attitudes Toward Work, Interest in Occupational Training, and achievement test scores. Self-concept rose in four classes and declined in one; scores on the Attitudes Toward Home Economics scale rose in three classes, all in the health careers sample. Attitudes Toward Health Services Jobs and Attitude Toward School scores tended to decline rather than rise. Student self-ratings on the Management and Dietary Aide descriptive rating scales rose significantly in all six classes in the dietary aide sample. Changes in teacher ratings were generally in a positive direction. Pre- and post-ratings could not be compared for the health careers sample since ratings were made just once during the school year.

Student Interviews

Students were asked, at end-of-year interviews, which features of the experimental course were most helpful and to make suggestions for improving the new programs. The girls liked best to practice nursing and food service skills, especially in a realistic situation such as a nursery school or nearby hospital. In all 16 classes informal discussion was listed among the most helpful features. Other helpful features were orientation to work, leads to jobs, opportunity to make friends and learn to work with others, help with personal problems, and opportunity to better understand their abilities and limitations. Outside work experience was a favored facet of courses which offered this opportunity and figured in suggestions for improvement where it was not offered. Other suggestions for improvement included more diverse class activities, more practice in skills, work experience earlier in the school year, and--in some classes--more advanced work. In general, the students expressed satisfaction with the courses as offered.

Most of the girls had previous work in home economics at the secondary level which they valued as background for occupational home economics. Many students felt adequately prepared, at the time of the interviews, to hold jobs at once or at some later period in their lives; others, who had not had outside work experience, said they would need more training before taking jobs.

Work Experience

Teachers in the dietary aide sample were highly successful in obtaining extensive outside work experience for their students; supervised work experience was not planned as part of the health careers course; and one nurse aide class, the Long Island school, had satisfactory outside work experience. Many students in the total sample had little or no work experience before enrollment and others held Neighborhood Youth Corps or similar government-sponsored jobs either prior to or during the course. Teachers in the dietary aide sample helped their students move into jobs in private industry, which the girls preferred. The Long Island class trained for a cluster of health services jobs and provided a variety of work experience opportunities. In two inner city nurse aide classes limited efforts were made to secure jobs for the girls; in two area occupational centers work experience was the responsibility of personnel other than the teacher of the class.

Unpaid work experience included extensive catering in two dietary aide classes and food preparation and service in the department nursery school for two more classes. One nurse aide class held in an area occupational center worked one-half day weekly in a nearby hospital in lieu of class. Teacher reports for the total sample indicated that most of the working students were earning at least the minimum wage by the conclusion of the course; few had earned the minimum wage prior to enrollment.

Follow-Up Study

The follow-up study ended at the close of summer for those students who enrolled in school another year but continued until December for students who graduated or otherwise left school and who therefore sought more permanent jobs. Responses from 206 of the 249 students who completed occupational education courses indicated that half held jobs; 38 did not seek jobs; and 48, mostly in the health careers and nurse aide samples, looked for jobs but were unable to find them. Just one of the respondents went on for further education.

Employer ratings ranged from just below 3.00, intended to represent minimum employability on the descriptive rating scale, to 5.00, intended to represent an optimum for an entry-level job and readiness to move up to a more-responsible job. Job satisfaction, as rated by the students, showed a similar range of scores. A mean of approximately 4.00 was found for both employer ratings and student job satisfaction for all the students. Forty respondents mentioned having problems on the job, typically: part-time rather than full-time jobs, working on weekends, boring office work, low pay, and transportation. Rarely did girls mention having trouble getting along with supervisors or co-workers, a rather common complaint in earlier studies.

Classes having strong work experience programs as part of their course, the six dietary aide classes and the Long Island class, had more students working during the follow-up period and they were more likely to receive a higher wage and be employed a fuller work week.

Dropouts

Sixty-four girls failed to complete the 16 occupational courses in which 313 enrolled. Counselors reported that reasons girls left school were: pregnancy, marriage, poor academic marks, needed at home, to go to work, or--in the case of an area occupational center--were encouraged by home schools to leave.

According to their counselors girls left class but remained in school because they did not like the occupational area, were disruptive, did not find the class challenging, or had low marks. In two inner city nurse aide classes teachers discovered girls enrolled who had the ability and interest to pursue professional nursing; the teachers encouraged the girls to transfer to academic programs directed toward their goals.

Twenty-four of the 64 class dropouts responded to follow-up communications. Five of the 24 had jobs in youth programs, 8 were not working, 7 were working part-time, and 4 held full-time jobs as clerk, diet aide, nurse aide, and mother's helper. Problems encountered were too many bosses, difficulty getting along with co-workers, low pay, and "backbreaking work."

Results: Correlation Matrices

Three correlation matrices were run in the present study--one for each of the three samples--to explore relationships among Vs and seek answers to questions of general interest to occupational educators. One question concerned basic academic ability and attitudes related to success both in an occupational class and on the job.

Success in class as determined by the marks assigned by teachers in the three samples was clearly related to occupational skills of personal employability, management, safety, sanitation practices, and dietary aide or nurse aide skills. In the dietary aide sample the mark in class was only slightly related to numerical competence but the relationship to basic academic ability was strong for both the health careers and nurse aide samples. Basic attitudes toward work and scores on the achievement test were also significantly related to success in the health careers and nurse aide classes, but not in the diet aide sample.

Another measure of success in class was an index compiled for the study from teacher ratings on the descriptive rating scales: Becoming Employable, Management, Sanitation, Safety, Nurses' Aide or Dietary Aide; and self-report on the Attitudes Toward Work scale, Attitudes Toward Health Services Jobs scale, and achievement test. Students ranking high on the index tended also to receive higher marks from the teacher and to have more basic academic ability--a finding in all three samples. Additionally, for the health careers and nurse aide samples, self-concept and attitudes toward working with others were related to the converted index score.

Success on the job as measured by employer ratings, employee job satisfaction, job status and wage, showed little relationship to academic ability or basic attitudes toward employment for the dietary aide sample. Exceptions were moderate relationships between job satisfaction and self-concept, and follow-up wage with self-concept, attitudes toward school and toward working with others. A similar pattern was shown for the nurse aide and health careers classes except that in both samples follow-up job status was related to reading ability. In the health careers sample cumulative GPA was significantly related to job satisfaction; in the nurse aide sample, GPA to follow-up job status. In the attitudinal sphere, attitude toward school was slightly related to follow-up job status for the health careers sample and attitudes toward working with others to job satisfaction for the nurse aides.

Seemingly erratic behavior of the employer rating V in the dietary aide and health careers samples is attributed to the number of students employed in locally- or federally-sponsored programs such as the Neighborhood Youth Corps, where some employers apparently rated from a less stringent frame of reference than those in private business. As a result slight negative relationships were shown for the dietary aide sample between employer rating and 1) wage, 2) attitudes toward working with others, and 3) total units of vocational education courses. In the health careers sample the confounding factor probably accounted for a slight negative relationship between the converted index score of success in class and employer rating. The employer rating behaved as expected in the nurse aide sample showing, in this case, a positive relationship to the index of success.

For the dietary aide sample follow-up job status was negatively correlated with GPA and mark earned in the occupational course, indicating that those students who had achieved less well in school were holding higher-status jobs during the period of the follow-up study--not an unexpected finding, since older students in the study tended to do less well, academically, in school and were in a position to seek permanent jobs.

Work experience data for the dietary aide sample showed a strong relationship between total work experience--a combination of simulated experience and work for an outside employer--and teacher ratings of students' occupational skills. Hours of work experience for an outside employer was significantly related, for this sample, to follow-up job status and wage.

Work experience data from the Long Island class in the nurse aide sample also showed significant relationships between total work experience and teacher ratings of students. Hours of work experience for an outside employer was positively, but non-significantly, related to follow-up wage.

For the dietary aide sample, as well as in the earlier study of food service workers, scores on the Interest in Occupational Training scale were significantly related to father's education, SES, and self-concept. Post-scores on the scale also, in the present study, showed strong relationships to follow-up wage and student self-ratings of employability. For the health careers sample Interest in Occupational Training scores were similarly related to self-concept and in the nurse aide sample the relationship approached significance ($r=.20$).

Results: Reports from Teachers and Guidance Counselors

Seven of the participating teachers were home economists and three were nurses; all but one had additional graduate work. Four did not have prior experience teaching at the secondary level; most had work experience other than teaching. Responses to a scale measuring attitudes toward teaching the course were stable throughout the year and generally favorable. Most of the respondents felt they had been adequately prepared to teach the course although they said they needed more work experience in entry-level jobs and college courses in foods, evaluation, guidance, occupational education, remedial reading, and sex education. Four had attended workshops in home economics occupational education and three worked 9-15 days the summer before the course in additional preparation for the program; all were reimbursed.

During the school year two-thirds of the teachers' time was spent in classroom teaching and lesson-preparation; the latter was especially time-consuming in the absence of detailed curriculum guides and materials. Contacting employers and supervising work experience required ten per cent of the time of those who engaged in that phase of the program. As in earlier studies, teachers found planning for a variety of class experiences--field trips, laboratory practice, work experience, demonstrations, audio-visual activities, discussion groups, resource persons--essential for maintaining interest of their students. Teachers' end-of-year evaluations of the program indicated that areas needing improvement, according to five or more of the respondents, were facilities, evaluation, selection of course content, and student work experience.

Criteria most used by classroom teachers and guidance counselors in placing students in the course were: student request, recommendation of teacher or counselor, level of achievement, need for work experience, and personality characteristics such as lack of motivation. When counselors were asked, at the end of the course, to evaluate the criteria used in student placement, two rated level of academic achievement less important than attitude and two others wrote that personality characteristics were most important. Counselor involvement with students in the total sample varied widely from school to school. The teacher, as in earlier studies, supplied a great deal of guidance and support. Counselors were asked whether they had observed positive changes such as the increased confidence, improved attitude toward school, and better attendance reported by counselors in previous studies. Sixteen of 28 respondents observed positive changes in their counsellees.

3

Discussion

A major problem in the development of instruments for the present study was achieving a consensus of expert opinion on specification of the duties of a nurse aide or dietary aide. In some hospitals the duties of the nurse or dietary aide are limited; in others, particularly State hospitals, responsibilities may be extensive. Opportunities for further training and advancement follow the same pattern, with nurse and diet aides facing relatively dead-end jobs in many hospitals whereas State hospitals, in particular, provide for further training and offer other attractive fringe benefits. By comparison, earlier studies of food service classes showed uniformity of job descriptions and exceptional opportunities for advancement even without further formal training.

Course effectiveness was measured by an index of success, changes between pretest and posttest scores, and student interviews. Variables most often associated with the index in both the present and an earlier study were self-concept, academic ability, and attitude toward working with others. The finding is encouraging to occupational educators since teachers have shown, in the present study and earlier studies, notable success in strengthening self-concept, cooperative attitudes, and motivation both in school and on the job. The significant positive changes between pre- and posttest scores on the achievement test, Interest in Occupational Training scale, and Becoming Employable descriptive rating scale showed student progress in the crucial areas of knowledge, motivation, and personal characteristics contributing heavily to employability. Equally important were the gain scores in 7 of 16 classes on the Attitudes Toward Work scale measuring students' attitudes toward both their responsibilities as employees and their rights. A major objective of occupational education in general is the development of the ability of students to recognize fair and equitable treatment. Scores on the Attitudes Toward Health Services Jobs scale, with its idealistic, selfless character, remained stable in most classes. Significant downturns in scores on the instrument occurred in four classes: dietary aide classes more attuned to food service than health service or in nurse aide classes frustrated by lack of expected outside work experience. Student interviews continued trends set in earlier studies by their endorsement of outside work experience, varied class experiences, strong background in home economics prior to the occupational education course, information regarding possible further training, support and guidance of the teacher, and opportunity to make new friends.

The present study was undertaken as a replication of an earlier evaluation of occupational home economics programs and the change in focus from food service and child care to health services jobs was expected to be the major interest. An unplanned-for factor, however, evolved as the most absorbing: the heavy incidence of student participation in government-sponsored youth programs and the success of teachers with strong work experience programs in moving the students into jobs in private business. An interesting finding was the preference of the students for employment in private businesses despite the attractive character of youth program jobs.

Conclusions from earlier studies which, according to the present study, remain relevant are:

1. Availability of entry-level jobs in occupations related to home economics for the academically less-able student who is dependable, able to get along with others, and willing to accept supervision.
2. Employer acceptance of course trainees, confirmed by the follow-up of students into summer or permanent jobs.
3. Ability of participating teachers to work successfully with students of varying abilities and to bring them to at least minimum standards of employability.
4. Strong emotional support and guidance required by some students.
5. Students left to their own devices not faring well in finding jobs.
6. Desirability of work experience both under simulated conditions in class and for an outside employer to acquaint students with employment possibilities, build self-confidence, and develop occupational skills.

Additionally, findings in the present study suggested a need for inclusion in future home economics occupational education courses of sex education, at student request, and consumer education, since many of the girls in the study were doing most of the family shopping. Both concepts are included in the curriculum of experimental home economics occupational education classes in ongoing research, a four-state study investigating the efficacy of home economics courses designed to prepare disadvantaged pupils for their homemaker-family member role and the dual roles of homemaker and wage earner.

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APPENDIX

OPEN-END QUESTIONNAIRE

New York State College of Home Economics
A Statutory College of the State University
Cornell University
Ithaca, New York

Attitudes toward Jobs as Health Service Aides

Directions: Please write out your responses in complete sentences. Remember that we are interested in things you would not like about jobs in health services as well as things you would like.

1. Try to imagine yourself as a nurse's aide or recreation aide or attendant working in a large city hospital, a home for the aged, or an institution such as Willard. What things do you think you would like most about your job?

   What things do you think you would not like about your job?

2. The nurse's aide (or other health services aide) is a member of a medical "team." Can you think of some advantages and disadvantages of working on such a team?

3. With what type of patients (aged, newborn, sick, handicapped, retarded, mentally ill) would you most enjoy working? Why?

4. In a large institution such as a city hospital the health services aide works with all kinds of people: from those who are very highly trained to the many workers in maintenance and food service who have had little training. How would you feel about working with so many kinds of people?

5. What do you think the very most important duties of a nurse's aide (or other health service aide) might be?

6. What sort of person do you think the health aide should be so he or she can be successful on the job?

7. Why is it important for the health services aide to understand the problems of people who are sick, aged, or handicapped?

8. How do you think a health services aide should look and behave while on duty?

9. What do you think are some of the worst things a health aide could do while on duty?

10. What do you think would be the most rewarding (pleasant) thing about working as a health services aide?

    What would be the most unpleasant thing about working as a health services aide?

11. Can you think of any advantages of having a skill such as health aide training?

FINAL ADMINISTRATION

New York State College of Home Economics E7265
A Statutory College of the State University
Cornell University
Ithaca, New York

Name ______________________________ Date ______________

School ______________________________

Attitude Toward Health Services Jobs

The following questionnaire was designed to help you express your feelings toward health services jobs. The statements were written by teenagers just like you. Do you agree or disagree with the young people who wrote these statements? There are no right or wrong answers, so answer according to your own opinion.

Please read each of the statements below and then rate them as follows:

A	a	d	D
Strongly agree	Mildly agree	Mildly disagree	Strongly disagree

Indicate your opinion by drawing a circle around the "A" if you strongly agree, around the "a" if you mildly agree, around the "d" if you mildly disagree, and around the "D" if you strongly disagree.

			t Values
+***	A a d D	1. I would like to help handicapped people enjoy life.	5.73* 4.54**
-	A a d D	2. Jobs like feeding and dressing helpless people do not appeal to me.	10.00 3.07
-	A a d D	3. I would not like working with people who are soon to die.	5.51 5.88
+	A a d D	4. One thing I would enjoy most, if I were a nurse's aide, would be doing the little things that the nurse might not have time to do.	3.74 3.86

* = pretest value; ** = first administration. A t-value as great as 1.75 indicates a useful item; *** = + = positive statement, - = negative statement: based on judgments of panel of experts.

		E7265	t Values
+	A a d D 5.	I'd like to make the patients comfortable, make beds, feed them, or anything I possibly could do.	5.50 12.57
-	A a d D 6.	I think hospital tasks would be the same each day and I would get bored doing the same thing day after day.	6.38 7.26
+	A a d D 7.	No matter how unimportant a job may seem, it is important.	4.55 4.18
+	A a d D 8.	I would work very hard to become trained at my job.	4.58 4.54
-	A a d D 9.	A health aide always ends up with dirty jobs like cleaning up after people.	3.72 4.21
+	A a d D 10.	I like to teach others how to have a good time in games and sports.	2.41 4.38
-	A a d D 11.	It would be hard for me to take orders and carry them out without asking questions.	2.82 2.60
+	A a d D 12.	A health service job would give me a great sense of accomplishment.	10.70 5.25
-	A a d D 13.	The irregular hours would complicate my family or social life.	3.12 3.90
+	A a d D 14.	Taking around meal trays and mail would be enjoyable.	2.79 2.53
-	A a d D 15.	Having to be in constant contact with mentally ill people could become rather unpleasant.	5.39 2.83
+	A a d D 16.	I would like to help the handicapped accept their conditions and realize there is a great deal they can do with their lives.	3.70 3.85
+	A a d D 17.	I wouldn't mind working with those who have an incurable sickness.	3.46 3.76
-	A a d D 18.	I believe I would not be suited for such a profession.	5.59 5.43

			t Values
+	A a d D	19. I would enjoy working with sick people.	8.08 4.16
+	A a d D	20. The big advantage in having such a skill is that it is always useful in life.	3.00 4.73
+	A a d D	21. Health aide training, I believe, would help many individuals find a self-satisfying job.	3.47 4.90
-	A a d D	22. Perhaps if I worked around mentally disturbed or aged people I would get bored.	3.46 4.25
+	A a d D	23. I would like to work with a group of people on a medical team.	2.88 3.44
+	A a d D	24. I don't think there would be anything truly unpleasant, that is anything I couldn't stand, in a health aide's job.	2.87 3.08
+	A a d D	25. Working with the sick and handicapped would be interesting to me.	7.45 6.91
+	A a d D	26. I would be willing to do anything needed for the benefit of the patients.	7.10 7.54
-	A a d D	27. I am afraid I might lose my temper with the patients.	3.82 2.76
-	A a d D	28. I think it would be embarrassing to the handicapped and to myself if I worked with them because I have a tendency to stare at any handicapped person.	3.96 3.95
+	A a d D	29. I would enjoy the opportunity to work and talk with people and to watch them get well.	6.07 4.18
-	A a d D	30. I could not work with the sick because of my weak stomach.	3.88 5.53
-	A a d D	31. I wouldn't like working in a home for the aged at all.	5.76 3.14
+	A a d D	32. I would like to get to know ill people and to understand their problems.	5.73 5.33

			E7265	t Values
+	A a d D	33.	Many people would dislike the hours and the free time they would have to give up, but I would feel that such a sacrifice would be well worth it when someone is in need of help.	4.62 5.72
+	A a d D	34.	I would like to spend my time helping to give the retarded some type of normal life.	6.16 6.50
-	A a d D	35.	I would not like to clean up messes.	3.82 5.28
-	A a d D	36.	I would not like a health services job because I would have to have a great sense of responsibility.	4.20 6.86
+	A a d D	37.	I would like the feeling of helping others to help themselves.	5.55 5.15
-	A a d D	38.	I would be afraid to work with mentally ill people.	4.00 6.79
-	A a d D	39.	I can't stand to see the sight of blood.	4.53 4.09
-	A a d D	40.	I would not like to feed and care for the newborn.	5.08 2.69
-	A a d D	41.	I would not be willing to listen to the patient's troubles and complaints.	5.50 4.77
+	A a d D	42.	To me the best part of a health services job would be knowing I was capable of helping people through my efforts.	4.24 12.00
-	A a d D	43.	I would rather have a job in which I could get more pay.	4.15 4.90
-	A a d D	44.	I would not like doing the clean-up jobs, such as dusting, mopping, or sweeping.	3.12 4.04
+	A a d D	45.	I would like teaching patients to do things by themselves.	10.54 2.90
-	A a d D	46.	It would be hard for me to keep from talking about the patients to outsiders.	3.36 3.13

			t Values
-	A a d D	47. Working on a medical team would get on my nerves and make me feel more uneasy toward my patients.	5.52 7.40
+	A a d D	48. I think it is especially important for a health aide to be cheerful.	3.31 3.28
+	A a d D	49. I think I would like to talk to patients and make things pleasant for them so they wouldn't worry so much.	4.42 6.00
+	A a d D	50. I think the health aide should practice good health habits himself.	3.08 4.72
+	A a d D	51. I feel I would be very capable if I worked with the handicapped in a place with the proper facilities.	7.18 2.82
-	A a d D	52. Health aides never get to do any of the really important jobs in a hospital.	3.65 4.04
+	A a d D	53. I would enjoy helping to train people for the jobs I know how to do.	4.58 2.85
+	A a d D	54. I think that before a job like this is taken you should realize that you will have to get along with many kinds of people, because the hospital couldn't run without any of them.	3.52 4.85

TABLE OF SPECIFICATIONS
ATTITUDE TOWARD HEALTH SERVICES JOBS SCALE

Subject Area	Number in Each Category	Item Numbers
Doing Whatever is Necessary to Help Sick or Handicapped	6	2, 5, 19, 26, 35, 38
Cooperating with Medical Team	6	4, 9, 11, 23, 47, 52
Exacting Demands of Health Service Jobs -- Responsibility, Record Keeping, Measuring Medication	6	13, 18, 30, 33, 36, 53
Rewards of Health Service Jobs -- Pay, Job Security, Ministering to the Sick	6	12, 20, 21, 29, 42, 43
Teaching Patients through both Instruction and Example	6	10, 16, 37, 45, 48, 50
Personal Characteristics Contributing to Success in Health Services Jobs: Flexibility, Tolerance, Resourcefulness	6	1, 8, 17, 22, 39, 51
Physical and Psychological Demands of Health Service Jobs	6	6, 14, 24, 41, 44, 46
Meeting Patient's Psychological and Physical Needs	6	7, 27, 32, 40, 49, 54
Depressing Aspects of Health Services -- Retardation, Death, Pain	6	3, 15, 25, 28, 31, 34
Total	54 Items	

New York State College of Home Economics
A Statutory College of the State University
Cornell University
Ithaca, New York

E6750

Name ____________________

School ____________________

Date ____________________

Preparation for Employment in
Health Services

Directions: Read carefully, each of the following statements and questions. On the line at the left of each, write the LETTER of the term which BEST completes the statement or answers the question.

Level of Difficulty — D Values

.37 ___1. Why is it important to keep the patient's skin in good condition? .19* .27**
a. to help prevent bed sores
b. for protection of the body
c. to help in the elimination of waste products
d. all of the above
e. (a) and (c), but not (b)

.17 ___2. Which of the following terms means that muscles have decreased in size due to lack of use? .25 .08
a. atrophy
b. paralysis
c. dystrophy
d. aspiration

.34 ___3. To clean a unit after dismissal of a patient, hospital procedures require: 0 .03
a. strip the bed of all linen except rubbersheet and pillows
b. disinfect mattress and pillows
c. remake bed immediately
d. wash bedside stand thoroughly inside and out

.68 ___4. Which of the following is a cardinal symptom? .38 .35
a. change in respiration
b. thirst
c. rash
d. severe headache

*Pretest value; **Second administration to health services sample.

Level of Difficulty E6750 **D Values**

.64 ___5. Which of the following methods of taking .31
temperature is most accurate? .27
a. axilla
b. mouth
c. rectum
d. all are the same

.38 ___6. To clean an oral thermometer, .25
a. use warm, not hot water .27
b. shake down to 98 degrees Fahrenheit
c. wipe from the bulb end toward the stem
d. clean with soap and antiseptic
e. all of the above

.24 ___7. As compared to oral temperature readings, .31
the rectal temperature reading is .27
a. more accurate
b. one degree higher
c. suitable for very ill or delirious patient
d. all of the above

.38 ___8. The application of moist heat would most .31
likely be ordered by the doctor to .43
a. localize infection
b. limit swelling
c. check hemorrhage
d. relieve headache

.41 ___9. Which of the following is a method for .12
applying dry heat? .32
a. hot water bottle
b. compress
c. inhalator
d. hot pack

.28 ___10. When moving the patient in bed .38
a. be sure he remains perfectly still and .24
does not attempt to help you
b. stand with your feet close together for
good balance
c. bend forward from the waist to avoid strain
d. none of the above

Level of
Difficulty

D
Values

.24 __11. Which of the following will INCREASE a sub- .25
normal temperature? 0
a. low-calorie diet
b. alcohol rubs
c. oil rubbed on skin
d. plenty of fluids

.60 __12. The average pulse for an adult is .25
a. 60-70 beats a minute .35
b. 70-80 beats a minute
c. 80-90 beats a minute
d. 90-100 beats a minute

.31 __13. How can the aide and her assistant safely and .31
efficiently move a helpless patient from a .22
bed to a stretcher?
a. use a draw sheet
b. move the hips first, and then the shoulders
c. roll the patient carefully onto the stretcher
d. place one hand under the patient's shoulder and the other under his hips

.65 __14. When moving a patient by stretcher .25
a. strap him to the stretcher .27
b. move him down the corridor head first
c. move him into the elevator head first
d. stand at the midpoint of the stretcher while the elevator is in motion

.19 __15. When taking a patient's blood pressure .31
a. alternate the arm you use .16
b. have the patient sit up, if possible
c. fill cuff with air until large artery is compressed
d. all of the above are true

.51 __16. The presence of infectious material in or .38
on any object is called .43
a. disinfection
b. incubation
c. infection
d. contamination

Level of Difficulty	E6750	D Values
.52	__17. The time that elapses between exposure to disease germs and the appearance of symptoms is called the period of a. infection b. contamination c. incubation d. isolation	.31 .32
.24	__18. The type of fracture associated with a crushing type of injury to the bone is called: a. simple b. compound c. comminuted d. double	.25 .16
.57	__19. In what kind of wound is there most danger of tetanus? a. abrasion b. incised c. lacerated d. puncture	.31 .43
.30	__20. Unless ordered otherwise by the physician, food for the sick should be a. on time b. new and appealing c. high in protein d. all of the above e. (a) and (c) only	.56 .03
.43	__21. Which of the following could cause a victim to stop breathing and make mouth-to-mouth rescue breathing necessary? a. electric shock b. gas c. alcoholism d. drugs e. all of the above	.44 .38
.20	__22. Which of the following is an accepted aseptic technique? a. store forceps in antiseptic solution with prongs closed b. keep a sterile field wet c. resterilize unused supplies monthly d. do not reach over a sterile field	.25 .12

Level of **Difficulty** E6750 D **Values**

.21 __23. What is the most desirable method for disinfecting small equipment used by a patient with a communicable disease? .38 .27
a. autoclaving
b. washing in soap and water
c. using chemical disinfectants
d. sunning in open air

.44 __24. When trying to carry out first aid techniques, people do the WRONG thing most often in regard to .38 .22
a. notifying the doctor
b. transporting the victim
c. treating for shock
d. bandaging wounds

.39 __25. In which of the following is infection a special danger? .19 .03
a. third degree burn
b. incised wound
c. frostbite
d. foreign body in throat

.23 __26. The antidote for a strong alkali, such as lye or ammonia, taken internally is .25 0
a. lemon juice
b. milk of magnesia
c. baking soda
d. water

.78 __27. The need for mental activity .38 .49
a. develops during the 5th year of life
b. lasts until a person is 18 or 20
c. is a basic need for all ages
d. grows less with age

.14 __28. If a child who is a patient under your care has a strong dislike for a particular food, the best way to handle the situation is to .19 -.12
a. coax the child to eat a small portion
b. mix the food that is disliked with a favorite food
c. avoid serving the disliked food
d. reward him if he eats the food

Level of Difficulty E6750 D Values

.43 __29. If a patient complained to you of a stomach .12
ache you should .24
a. give him an aspirin and record it on his chart
b. report the patient's condition to the head nurse
c. call the doctor and explain the situation to him
d. ask the patient to describe the pain

.45 __30. If you were called upon to give first aid for .25
a severely bleeding arm the FIRST thing to .05
do is
a. apply a tourniquet
b. apply pressure directly to the wound
c. raise the arm above the body level
d. apply pressure on a pressure point

.43 __31. When a child has to have an operation you .56
should prepare him for it by .40
a. pretending he is going for a checkup
b. telling him the simple truth
c. giving him as many details as you can
d. helping him realize the serious nature of his illness

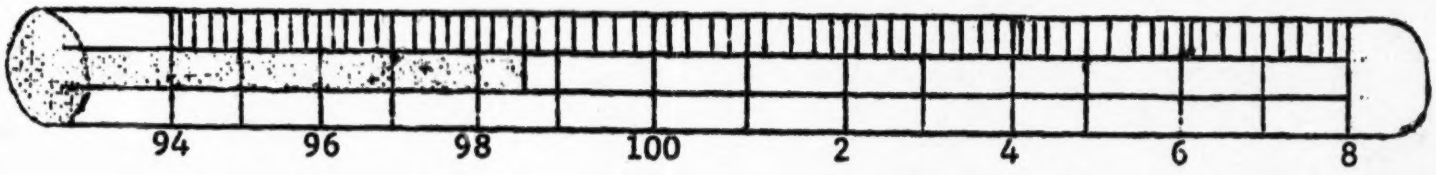
.61 __32. Proper body alignment is important to the .70
well-being of the patient .30
a. so muscles may be kept in tone
b. so lungs may be allowed to take in adequate oxygen
c. to help digestion and elimination
d. all of the above

.51 __33. Which of the following statements about -.06
giving drugs is true? .38
a. the aide must be alert to the possibility of suicide
b. drugs can be given by mouth, by absorption, by inhalation, and by injection
c. the label is read three times when giving drugs
d. all the above are true

Level of
Difficulty E6750 D
Values

.38 __34. Drugs are given .50
a. to cure illness and disease .43
b. to assist in the diagnosis of illness and disease
c. to prevent the development of disease
d. all of the above
e. (a) and (c), but not (b)

.66 __35. The reading on the thermometer below is: -[1]
.22



a. 98.2
b. 98.6
c. 98.4
d. 96.8

.73 __36. In general, the nurse's aide who assists a doctor when he gives a patient an examination is expected to: -[1]
.43
a. drape the patient with a towel or sheet so only the part being examined is exposed
b. tell the patient what the doctor is going to do
c. help the doctor get the instruments he will need for the examination
d. do all of the above
e. do none of the above

.62 __37. When making an emergency telephone call to the police or the fire department, what information is MOST important to report? .40[2]
.22
a. the nature of the emergency
b. the name of the institution and its location
c. the names of the people involved in the emergency
d. your name and position
e. the name of the head nurse or doctor in charge

[1] Not pretested

[2] Pretested in previous study

Level of Difficulty	E6750	D Values
.60	__38. If a patient is dying, you should FIRST a. ask his relatives to leave the room b. send for a doctor or head nurse quietly c. say a few prayers aloud d. send for a minister, priest or rabbi	-[1] .40
.78	__39. When helping to admit a patient, you will a. greet the patient and take him to the unit he will occupy b. make sure he wears hospital gowns instead of his own pajamas c. leave his clothes and valuables on the chair next to the bed for easy reach d. encourage the family members to accompany the patient to his room	-[1] .24
.73	__40. Suppose you are assigned to clean a hospital unit or room. Which of the following procedures will permit you to do the job most efficiently? a. assemble needed supplies and equipment at the work area b. first clean the floor and furniture, then change the bed c. get needed supplies and equipment as you find you need them d. any of the above methods is acceptable	.44[2] .59
.10	__41. For a working mother of four, which of the following would be the LEAST desirable way for her to save time and money in food preparation? a. simplify menus b. use quick-cooking meats such as steaks and chops c. use partially prepared foods such as frozen vegetables d. prepare double amounts of foods such as spaghetti; freeze the extra	.52[2] 0

Level of Difficulty | D Values

.20 __42. Which type of storage is INCORRECT for the foods listed after it? $.48^2$ .11
a. air-tight containers at room temperature: crackers, cookies, pretzels
b. tightly covered containers in refrigerator: milk, kool-aide, fresh orange juice
c. fruit bin in refrigerator: fresh oranges, bananas, apples
d. covered container at room temperature: dried prunes, dried apricots, raisins

.26 __43. If cooked foods such as macaroni and cheese are to be kept appetizing and safe for several hours, they should be kept at a temperature which is: $.70^2$ .11
a. either very hot or very cold
b. lukewarm
c. room temperature
d. none of these is correct

.42 __44. On days school is not in session, which of the following would be the LEAST desirable arrangement for caring for a six-year-old boy while his mother works? $.65^2$ .40
a. leave him with his grandmother
b. leave him at a day care center
c. leave him with his 12-year-old brother
d. hire a neighbor to keep him with her

.31 __45. Which attitude is LEAST likely to contribute to family satisfaction when mother goes to work? $.26^2$ .27
a. we must continue our contacts with our friends
b. we will have to give up all entertaining at home
c. we will simplify entertaining at home
d. we must figure out some gracious way to limit the number of casual guests and "drop-ins"

.82 __46. Which attitude would be MOST helpful to the working mother? $.80^2$ .35
a. the children take so long it's easier to do it myself
b. the children owe me a lot of help because I am working to help them
c. accepting responsibility helps children become independent
d. usually children are careless when helping with home care tasks

Level of Difficulty		D Values
.20	__47. Which of the following possible cost increases for working women would LEAST depend upon the kind of work which she does? a. clothing b. personal care c. transportation d. amount of charitable contributions	.20[2] .27
.62	__48. Which of the following costs will ALWAYS increase when the wife starts bringing in the second pay check in the family? a. contributions to charities b. income tax payments c. transportation costs d. clothing costs	.39[2] .22
.29	__49. When lifting a heavy object, such as a loaded tray: a. bend from the waist; lift using the back muscles b. kneel close to the object, lift using the leg muscles c. push from the shoulders, keeping the equipment close to the body d. bend from the waist; lift with the arms and shoulders	.52[2] .19
.66	__50. What is the most likely result when a family works out together a plan for spending its money? a. family members feel resentful about the amount of family income b. family members gain better understanding of the needs of other family members c. each member will have more money to spend for himself d. all members will have an equal amount of money to spend	.44 .46
.29	__51. Which of the following is NOT a reason for filling out an application form carefully and completely? a. it gives an important first impression b. it contains basic information about your qualifications for the job c. it is required by law d. it indicates how carefully and quickly you work	.13[2] 0

Level of Difficulty	E6750	D Values
.77	___52. When you are job hunting, the accepted way to contact a specific employer is to: a. drop in any time during business hours b. call to make an appointment c. wait for the employer to set a time d. any of these is acceptable	.30[2] .22
.73	___53. Which is MOST important when choosing a job? a. work near home b. opportunity to learn and advance c. good pay d. a job which does not require union membership	.40[2] .30
.41	___54. What is a trend in the working world today? a. there is greater demand for unskilled workers b. women need training for the dual jobs of homemaker and worker c. there is less competition for jobs d. service jobs are easy to get without a high school diploma	.44[2] .57
.58	___55. Suppose you were to use a sterilizer for the first time. Which of the following is NOT a safety procedure you should take? a. be sure neither hand nor cord is wet when connecting to outlet b. understand procedure before starting machine c. be sure the top is down over the steam bath d. oil machine thoroughly	.44[2] .46
.48	___56. Which of the following is MOST important when choosing a job, in order that a worker may be successful? a. the pay is fair for the type of job b. the person is capable of doing that kind of work c. the kind of work is interesting to the worker d. the co-workers are friendly and helpful to newcomers e. the reputation of the company is good	.17[2] .40

Level of Difficulty		D Values
.55	__57. Which of the following is a characteristic of the New York State Employment Service? a. lists only full-time jobs b. charges a small fee for its services c. is the largest employment agency in an area d. offers few counseling and testing services	.35[2] .35
.60	__58. Under which condition does a worker NOT need working papers? a. if she is 16 or over b. if she is 18 or over c. if she is married d. if she is a high school graduate e. if she already has them from another job	.60[2] .16
.32	__59. Which of the following is NOT a requirement for working papers? a. permission of parent or guardian b. a certificate signed by the future employer c. legal proof of age d. signature of the school principal e. a physical examination	.39[2] .32
.21	__60. You will be covered by the Unemployment Insurance Law if the firm for which you work has a payroll in any calendar quarter (three month period) of: a. $200 or more b. $300 or more c. $500 or more d. $1,000 or more	.20[2] 0
.30	__61. Which of the following is true of laws governing wages in New York State? a. women must receive the same pay as men for the same work b. the minimum wage is the same for all jobs c. all employment in New York State is covered by the minimum wage law d. minimum wage laws are determined by county governments	.17[2] .24
.72	__62. If you think you are NOT being paid at least the legal minimum, you could get advice from: a. N.Y.S. Employment Service office b. Social Security office c. N.Y.S. Court of Appeals d. Unemployment Insurance office	.26[2] .27

Level of Difficulty		D Values
.35	__63. All but one of the following statements represent facts teenagers should know about the laws which regulate their working conditions. Which of the following statements is NOT correct? a. persons under 16 cannot work during school hours b. girls may not work on the street in jobs such as shoe shiner c. anyone over 14 may work in a factory d. persons under 18 may not work where liquor is served	.65[2] .40
.26	__64. Which of the following protections for workers is NOT fulfilled in the usual union contract? a. in general, union workers receive higher pay than non-union workers b. unions aid in bringing about improved working conditions c. a union guarantees an annual wage for each member working d. union members cannot be discharged without "just cause"	-[1] .07

TABLE OF SPECIFICATIONS

Preparation for Employment in Health Services

Subject Area	Knowledge	Comprehension	Application	N	Per Cent
I. Adjustment to World of Work					
Factors affecting availability of employment		63,51			
Women workers - changing employment picture	61	54			
Sources of occupational information	62,58,59	64,57			
Choosing a job		56,52,53	47		
				13	20
II. Management for Effective Living at Home and on the Job					
Identification and use of resources	60	48	50		
Maintaining family health	27	43			
Management principles		41,49,10,55	40		
Planning for dual role			44,45,46		
				13	20
III. Development of Competence in Entry-Level Jobs in Health Services					
Elementary nutrition and diet therapy	42	20	28		
First aid	18,26	19,37,21,24,25	29,30		
Basic nursing procedures	5,9	6,36,38,39,11,13,14,15	35,8,3,31		
Preventive medicine, asepsis	16,17	22,23,33,34			
Elementary anatomy	12,19	7			
Rehabilitation		1,2,32			
				38	60
			Total	64	100%

New York State College of Home Economics
A Statutory College of the State University
Cornell University
Ithaca, New York

E7000

Preparation for Employment in Health Services (Diet Aide)

Name ____________________

School ____________________

Date ____________________

Directions: Read carefully, each of the following statements and questions. On the line at the left of each, write the LETTER of the term which BEST completes the statement or answers the question.

Level of Difficulty		D Values
.49	___1. Mary is doing the shopping for a nursing home. Which of the following foods on her shopping list would NOT be suitable for all 3 types of diets (liquid, soft, light) which are served by the nursing home? 1) eggs 2) gelatin 3) ice cream 4) cottage cheese	.30* .45**
.60	___2. Which food group supplies the largest amounts of vitamin A? 1) citrus fruits 2) bread and cereals 3) green and yellow vegetables 4) meats	.57 .10
.53	___3. A food group which should be eaten daily because an important vitamin it contains is not stored in the body is: 1) citrus fruits 2) bread and cereals 3) green and yellow vegetables 4) meats	.61 .30
.48	___4. When a caterer has delivered her product and received payment, her job is not completed. Which of the following must she still do? 1) evaluate her plan of work 2) see if costs could be cut 3) keep accurate records 4) all of the above	.44 .15

*Pretest value; **Second administration to diet aide sample

Level of Difficulty E7000 D Values

.52 ___5. You have brought a roast of beef home from the 0
market. How should it be stored? .10
1) put in the refrigerator in the store wrap
2) unwrap and put on plate in refrigerator.
Do not cover.
3) re-wrap loosely and put in refrigerator
4) re-wrap tightly and put in refrigerator

.84 ___6. Food will be washed, sliced or chopped, weighed .30
or measured at what major work center of a food- .35
service establishment?
1) pre-preparation department
2) hot food department
3) service bar
4) bakeshop

.56 ___7. Which of the following characteristics is NOT .48
necessary for efficient performance of the "back .50
of the house" in a food service operation?
1) well-planned lay-out of equipment
2) adequate storage facilities
3) attractive decor
4) easy-to-care for floor coverings

.45 ___8. When the waitress is loading a tray of food to .35
bring in from the kitchen to serve, she .20
1) puts cups on the saucers
2) makes sure that hot and cold dishes do not touch
3) places tea or coffee pots so that the spouts
face the outside of the tray
4) stacks dishes with food to be served alternately
on top of each other

.39 ___9. Which of the following descriptions applies to .44
the proper serving of beverages with a meal? .10
1) pour or serve from the right side with the
left hand
2) pour or serve from the right side with the
right hand
3) fill to within one inch of the top of the cup
or glass
4) take the beverage order before serving the
dessert

Level of Difficulty E7000 **D Values**

.73 __10. When clearing the main course dishes, the first .19
things which are removed are: .15
1) soiled plates, one cover at a time
2) empty beverage glasses and cups
3) salt and pepper shakers
4) serving dishes

.61 __11. An accompaniment which should be offered when .48
Broiled Steak is served is: .25
1) soya sauce
2) melted butter
3) Worcestershire sauce
4) mint sauce

.79 __12. Which of the following conditions is NOT .30
essential for growth of harmful bacteria? .30
1) food
2) light
3) moisture
4) warmth

.45 __13. In which type of food service establishments .22
would it be MOST important to have dish machine 0
operation entirely separated from the kitchen?
1) snack bar
2) distinctive atmosphere restaurant
3) hospital
4) school cafeteria

.57 __14. Which of the following is a sanitation practice .65
usually followed in good food service establishments? .60
1) use tongs to handle food items
2) get soiled dishes to the dishwasher promptly
3) check for cracked dishes
4) wash hands after handling money
5) (2) and (4)
6) (1), (2), (3), and (4)

.40 __15. Which of the following is NOT a leavening agent? .70
.50
1) baking powder
2) yeast
3) beaten egg whites
4) baking soda plus sour milk
5) steam
6) salt

.31 __16. Why is meat best cooked at low temperature? .61
1) because protein foods toughen at high temperature .20
2) for better flavor
3) because protein foods should be cooked for a long time
4) to preserve vitamins

.39 __17. "Meat is browned in hot fat; liquid is added; .39
meat is covered and allowed to simmer." Which .50
of the following is the correct name of the cooking procedure described?
1) roasting
2) sauteing
3) broiling
4) braising

.43 __18. A meal served in several courses at a set price .39
is called: .45
1) a la carte
2) carte du jour
3) table d'hote
4) a la mode

.83 __19. Which of the following statements is MOST .35
characteristic of modern hospital food service .35
kitchens?
1) most of their workers are short term, unskilled
2) very few are automated; most things must be done by hand
3) they must have a steady supply of capable, technically-trained workers
4) they offer little opportunity for advancement

.69 __20. What "future" is predicted for the food service .52
industry? .45
1) it will probably level off
2) it is expected to decline
3) it is expected to increase
4) it is impossible to predict the future

.16 __21. The diet aide needs to store her cooking equipment .30
in the diet aide's kitchen where it can be .10
used most efficiently. Generally, equipment should be stored:
1) in the area where it is washed
2) between the area where it is used and washed
3) in the area where it is first used
4) any of the above areas is acceptable if the equipment is at arm level

Level of **Difficulty** E7000 D **Values**

.20 __22. The following statements describe some general .57
facts about food service. Which of these facts .30
indicates the GREATEST need for good management
on the part of the waitress?
1) food service has rush hours and slack times
2) food service work requires good health and
physical energy
3) the food service industry has an obligation to
serve well-prepared food
4) the margin of profit in the food service
industry is very slim

.81 __23. The presence of infectious material in or on any .38
object is called .30
1) disinfection
2) incubation
3) infection
4) contamination

.32 __24. Unless ordered otherwise by the physician, food .56
for the sick should be -.10
1) on time
2) new and appealing
3) high in protein
4) all of the above
5) (1) and (3) only

.11 __25. What is the most desirable method for disinfecting .38
small equipment used by a patient with a -.05
communicable disease?
1) autoclaving
2) washing in soap and water
3) using chemical disinfectants
4) sunning in open air

.65 __26. The need for mental activity .38
1) develops during the 5th year of life .05
2) lasts until a person is 18 or 20
3) is a basic need for all ages
4) grows less with age

.15 __27. If a child who is a patient under your care has .19
a strong dislike for a particular food, the best -.05
way to handle the situation is to
1) coax the child to eat a small portion
2) mix the food that is disliked with a favorite food
3) avoid serving the disliked food
4) reward him if he eats the food

.19 __28. For a working mother of four, which of the .52
following would be the LEAST desirable way for .25
her to save time and money in food preparation?
1) simplify menus
2) use quick-cooking meats such as steaks and chops
3) use partially prepared foods such as frozen vegetables
4) prepare double amounts of foods such as spaghetti; freeze the extra

.36 __29. Which type of storage is INCORRECT for the .48
foods listed after it? .20
1) air-tight containers at room temperature: crackers, cookies, pretzels
2) tightly covered containers in refrigerator: milk, kool-aide, fresh orange juice
3) fruit bin in refrigerator: fresh oranges, bananas, apples
4) covered container at room temperature: dried prunes, dried apricots, raisins

.44 __30. If cooked foods such as macaroni and cheese are .70
to be kept appetizing and safe for several hours, .40
they should be kept at a temperature which is:
1) either very hot or very cold
2) lukewarm
3) room temperature
4) none of these is correct

.48 __31. On days school is not in session, which of the .65
following would be the LEAST desirable arrange- .45
ment for caring for a six-year-old boy while
his mother works?
1) leave him with his grandmother
2) leave him at a day care center
3) leave him with his 12-year-old brother
4) hire a neighbor to keep him with her

.15 __32. Which attitude is LEAST likely to contribute to .26
family satisfaction when mother goes to work? .15
1) we must continue our contacts with our friends
2) we will have to give up all entertaining at home
3) we will simplify entertaining at home
4) we must figure out some gracious way to limit the number of casual guests and "drop-ins"

Level of Difficulty E7000 D Values

.77 __33. Which attitude would be MOST helpful to the working mother? .80 .45
1) the children take so long it's easier to do it myself
2) the children owe me a lot of help because I am working to help them
3) accepting responsibility helps children become independent
4) usually children are careless when helping with home care tasks

.19 __34. Which of the following possible cost increases for working women would LEAST depend upon the kind of work which she does? .20 -.05
1) clothing
2) personal care
3) transportation
4) amount of charitable contributions

.63 __35. Which of the following costs will ALWAYS increase when the wife starts bringing in the second pay check in the family? .39 .45
1) contributions to charities
2) income tax payments
3) transportation costs
4) clothing costs

.39 __36. When lifting a heavy object, such as a loaded tray: .52 .30
1) bend from the waist; lift using the back muscles
2) kneel close to the object; lift using the leg muscles
3) push from the shoulders, keeping the equipment close to the body
4) bend from the waist; lift with the arms and shoulders

.60 __37. What is the most likely result when a family works out together a plan for spending its money? .44 .65
1) family members feel resentful about the amount of family income
2) family members gain better understanding of the needs of other family members
3) each member will have more money to spend for himself
4) all members will have an equal amount of money to spend

Level of **Difficulty** E7000 D **Values**

.43 __38. Which of the following is NOT a reason for filling out an application form carefully and completely? .13 .05
1) it gives an important first impression
2) it contains basic information about your qualifications for the job
3) it is required by law
4) it indicates how carefully and quickly you work

.88 __39. When you are job hunting, the accepted way to contact a specific employer is to: .30 .25
1) drop in any time during business hours
2) call to make an appointment
3) wait for the employer to set a time
4) any of these is acceptable

.84 __40. Which is MOST important when choosing a job? .40 .30
1) work near home
2) opportunity to learn and advance
3) good pay
4) a job which does not require union membership

.57 __41. What is a trend in the working world today? .44 .40
1) there is greater demand for unskilled workers
2) women need training for the dual jobs of homemaker and worker
3) there is less competition for jobs
4) services jobs are easy to get without a high school diploma

.61 __42. Suppose you were to use a sterilizer for the first time. Which of the following is NOT a safety procedure you should take? .44 .60
1) be sure neither hand nor cord is wet when connecting to outlet
2) understand procedure before starting machine
3) be sure the top is down over the steam bath
4) oil machine thoroughly

.43 __43. Which of the following is MOST important when choosing a job, in order that a worker may be successful? .17 -.05
1) the pay is fair for the type of job
2) the person is capable of doing that kind of work
3) the kind of work is interesting to the worker
4) the co-workers are friendly and helpful to newcomers
5) the reputation of the company is good

Level of Difficulty	E7000	D Values
.79	__44. Which of the following is a characteristic of the New York State Employment Service? 1) lists only full-time jobs 2) charges a small fee for its services 3) is the largest employment agency in an area 4) offers few counseling and testing services	.35 .30
.84	__45. Under which condition does a worker NOT need working papers? 1) if she is 16 or over 2) if she is 18 or over 3) if she is married 4) if she is a high school graduate 5) if she already has them from another job	.60 .15
.32	__46. Which of the following is NOT a requirement for working papers? 1) permission of parent or guardian 2) a certificate signed by the future employer 3) legal proof of age 4) signature of the school principal 5) a physical examination	.39 .40
.31	__47. You will be covered by the Unemployment Insurance Law if the firm for which you work has a payroll in any calendar quarter (three month period) of: 1) $200 or more 2) $300 or more 3) $500 or more 4) $1,000 or more	.20 .25
.27	__48. Which of the following is true of laws governing wages in New York State? 1) women must receive the same pay as men for the same work 2) the minimum wage is the same for all jobs 3) all employment in New York State is covered by the minimum wage law 4) minimum wage laws are determined by county governments	.17 -.05
.69	__49. If you think you are NOT being paid at least minimum, you could get advice from: 1) N.Y.S. Employment Service office 2) Social Security office 3) N.Y.S. Court of Appeals 4) Unemployment Insurance office	.26 .45

Level of Difficulty	E7000	D Values
.48	__50. All but one of the following statements represent facts teenagers should know about the laws which regulate their working conditions. Which of the following statements is NOT correct? 1) persons under 16 cannot work during school hours 2) girls may not work on the street in jobs such as shoe shiner 3) anyone over 14 may work in a factory 4) persons under 18 may not work where liquor is served	.65 .15
.27	__51. Which of the following protections for workers is NOT fulfilled in the usual union contract? 1) in general, union workers receive higher pay than non-union workers 2) unions aid in bringing about improved working conditions 3) a union guarantees an annual wage for each member working 4) union members cannot be discharged without "just cause"	-[1] .40

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[1] Not pretested

TABLE OF SPECIFICATIONS

Preparation for Employment in Health Services: Dietary Aide

Subject Area	Knowledge	Comprehension	Application	N	Per Cent
I. Adjustment to World of Work					
Factors affecting availability of employment		38,50			
Women workers - changing employment picture	48	41,20	19		
Sources of occupational information	45,46,49	44,51			
Choosing a job		39,40,43	34	15	30
II. Management for Effective Living at Home and on the Job					
Identification and use of resources	47	35	37		
Maintaining family health	26				
Management principles		28,36,42	22		
Planning for dual role			31,32,33	11	21
III. Development of Competence in Entry-Level Jobs in Health Services					
Elementary nutrition and diet therapy	2	24,3	27,1		
Basic food service procedures	9,10,11,18	6,7,4	8		
Sanitation and safety	23,12	25,30,13,14			
Storage of food and equipment	29,21	5			
Principles of cookery	15	17	16	25	49
				Total 51	100%

NURSE'S AIDE RATING SCALE FOR____________________ E7221

Directions: The following is a scale by which to judge the nurse's aide skills of a student. Please indicate at the right, your rating number of the student in each of the areas. (Omit those which do not pertain.)

KEY:	COLUMN 1.	COLUMN 2.	COLUMN 3.	COLUMN 4.	COLUMN 5.
	Work quality which would make the individual unacceptable for employment.	Better than 1 but not as good as 3.	Work habits which need supervision and help but individual does acceptable quality of work.	Better than 3 but not as good as 5.	Excellent quality of work; desirable kind of employee.

I ROUTINE NEEDS OF THE PATIENT	1	2 3 4	5	Rating	D Values
	Is slow and careless with bed baths. Often ignores duties of combing hair, cleaning mouth and teeth; and giving back rubs, and proper foot care.	Gives bed baths in reasonable amount of time but sometimes neglects combing hair, cleaning mouth and teeth; and giving back rubs, and proper foot care.	Works quickly and efficiently with bed baths; cleans mouth and teeth, combs hair; and gives back rubs, and proper foot care.		.20
	Disregards signals for help.	Sometimes is slow in answering a signal for help.	Answers signal for help immediately.		.25
	Ignores supervisor's orders for proper positioning of patient.	Requires some supervision in proper positioning of patient according to supervisor's orders.	Independently follows supervisor's orders for positioning of patient.		.30

E7221

	1	2 3	4 5	Rating	D Values
	Must often be reminded that cleaning a unit involves more than changing the bed.	Cleans entire unit but is not particular or thorough.	Does thorough work in cleaning all parts of a unit.		.35
	Fails to report to proper authority when oxygen bottles are low or not working; when intravenous or other fluid bottles are running out.	Occasionally slow to report to proper authority when oxygen bottles are low or not working; when intravenous bottles are running out.	Promptly reports to proper authority when oxygen bottles are low or not working; when intravenous or other fluids are running out.		.30
	When making bed, bottom sheet not tightly drawn. Neglects supply extra pillows, blankets or other materials when needed. Bed does not have neat appearance.	Generally makes bed well but sometimes must be reminded to follow set hospital standards for bedmaking. Not always careful to supply extra pillows, blankets, other materials when needed.	Beds always look neat and smooth. Provides extra blankets, pillows, and other materials when needed.		.35
	Shows annoyance if the patient wants bed adjusted for comfort.	Adjusts bed only if the patient requests it.	Routinely puts bed in a comfortable position for patient.		.30
	Neglects to check that each patient gets the correct food tray. Sometimes gives the wrong tray to a patient.	Generally remembers to check the patient's name on each food tray.	Checks that patient is getting the correct food tray.		.20

E7221

	1	2	3	4	5	Rating	D Values
	Must often be reminded that cleaning a unit involves more than changing the bed.		Cleans entire unit but is not particular or thorough.		Does thorough work in cleaning all parts of a unit.		.35
	Fails to report to proper authority when oxygen bottles are low or not working; when intravenous or other fluid bottles are running out.		Occasionally slow to report to proper authority when oxygen bottles are low or not working; when intravenous bottles are running out.		Promptly reports to proper authority when oxygen bottles are low or not working; when intravenous or other fluids are running out.		.30
	When making bed, bottom sheet not tightly drawn. Neglects supply extra pillows, blankets or other materials when needed. Bed does not have neat appearance.		Generally makes bed well but sometimes must be reminded to follow set hospital standards for bed-making. Not always careful to supply extra pillows, blankets, other materials when needed.		Beds always look neat and smooth. Provides extra blankets, pillows, and other materials when needed.		.35
	Shows annoyance if the patient wants bed adjusted for comfort.		Adjusts bed only if the patient requests it.		Routinely puts bed in a comfortable position for patient.		.30
	Neglects to check that each patient gets the correct food tray. Sometimes gives the wrong tray to a patient.		Generally remembers to check the patient's name on each food tray.		Checks that patient is getting the correct food tray.		.20

E7221

	1 2	3 4	5	Rating	D Values
	Seldom checks that all needed supplies are on food tray.	Usually checks food trays for all needed supplies.	Consistently checks that all needed supplies are on each food tray.		.40
	Hurries patient who is eating.	Sometimes removes tray before patient is finished eating.	Does not hurry patient who is eating.		.20
	Careless about neatness in feeding a patient. Omits napkin or towel; spills food.	Usually careful not to spill food on patient, but provides no towel or napkin for protection.	Consistently protects patient with a towel or napkin. When feeding patient does not spill food.		.45
	Does not report important changes in patient attitude or behavior to proper member of medical team.	Inconsistent in reporting important changes in patient's behavior or attitude to proper member of medical team.	Reports immediately important changes in patient's behavior or attitude to proper member of medical team.		.25
	Is often slow, and abrupt when giving patients enemas, taking their temperatures, and preparing them for physical examinations.	Is sometimes slow and careless when giving patients enemas, taking their temperatures, and preparing them for physical examinations.	Works quickly and gently with patients when taking their temperatures, giving them enemas, and preparing them for physical examinations.		.35
	Ignores patients leaving the hospital; makes no effort to help them assemble their belongings, and get to transportation.	Usually helps patients leaving the hospital gather all their belongings but may neglect to assist them to transportation.	Helps patients leaving the hospital assemble their belongings; assists patients to transportation.		.50

	1	2	3	4	5	Rating	D Values
	Avoids situations involving dying patients.		Accepts the situation but sometimes becomes emotional when assisting with a dying patient.		Accepts situation and controls emotions when assisting with dying patient; notifies proper authority as quickly as possible.		.50
II COMMUNICATIONS AND CLERICAL ACTIVITIES	Frequently neglects to relay phone and other messages to proper person.		Usually relays phone and other messages to proper person, but not always promptly.		Relays phone and other messages promptly, accurately, and to proper person.		.35
	Neglects to write information on hospital records. Careless with clerical duties.		Writes information accurately on hospital records but sometimes clerical work is unreadable and slow.		Is accurate, neat and prompt with clerical assignments and writing information on hospital records.		.35
III PATIENT'S ENVIRONMENT	Neglects to check that bedside table contains all necessary items.		Usually checks that bedside table contains all necessary items.		Consistently checks that bedside table contains all the necessary things.		.20
	Seldom places bedside table in patient's reach; shows annoyance if asked to do so.		Sometimes forgets to place bedside table in patient's reach. Patient must remind aide to put bedside table within reach.		Routinely checks that bedside table is within reach of patient.		.35
	Rarely puts screen around patient's bed. Must be told to remove screen when not needed.		Puts screen around a patient's bed when told to do so. Occasionally neglects to remove unneeded screen.		Consistently screens patient's bed when there is need for it. Removes screen when no longer needed.		.20

E7221

	1	2	3	4	5	Rating	D Values
	Shows impatience and lack of sympathy with slow, aged patients; irritable, mental patients; and convalescents.		Accepts assignment but gives little encouragement or sympathy to the aged, mentally ill, and convalescents.		Exhibits patience, encouragement and sympathy for slow, aged patients; irritable, mental patients; and convalescents.		.05
	Often is unpleasant toward patient's visitors.		Ignores patient's visitors.		Is courteous and helpful toward patient's visitors.		.20
	Frequently eats patient's candy without permission; neglects care of flowers; is disrespectful toward patient's belongings.		Sometimes handles patient's belongings without permission; sometimes eats patient's candy without permission; cares for flowers only when patient reminds aide.		Shows respect for patient's belongings; eats patient's candy only when patient offers it; cares for flowers as needed.		.30

Total Score

School____________________

NURSE'S AIDE FACILITIES QUESTIONNAIRE

1. Did your nurse's aide program include laboratory practice in nursing skills? YES_____ NO_____

2. Were these nursing skills practiced in:
   the classroom _____
   a real hospital situation _____
   other health care institution _____

3. Did your nurse's aide program include laboratory practice in food preparation? YES_____ NO_____

4. The left hand column is a list of possible facilities/equipment which may have been used to teach nurse's aide skills. Please indicate which, if any, of these you used by placing the appropriate letter in the center column.

5. In the right hand column please indicate your opinion of the usefulness of each of the facilities/equipment.

FACILITY/EQUIPMENT	FREQUENCY OF USE Regularly all year=R Occasionally =O Never =N		OPINION OF USEFULNESS Essential =E Desirable =D Insignificant=I	
I. Items Found in Health Care Institutions:				
Abbey Needle Holder		1 O*		1 D
Crutches		2 O	2 E	1 D
Assorted Surgeons' Needles in Vial		1 O		2 D
Bath Blanket	2 R	2 O	4 E	
Bed - Hi-Lo Manual	3 R	2 O	4 E	
Bed - Homestyle	2 R	3 O	3 E	1 D
Bed - Boxsprings	3 R		2 E	
Bedside Cabinet	3 R	2 O	4 E	
Bed Cradle		3 O	1 E	2 D
Bed Jacket		3 O	1 E	2 D
Bed Pan & covers	2 R	3 O	4 E	
Bed Side Rails	2 R	3 O	3 E	2 D
Bedside Chairs	2 R	3 O	4 E	
Bedside Pitcher & Cup	2 R	3 O	4 E	
Bedspreads	2 R	2 O	4 E	
Bed Tray	2 R	3 O	4 E	
Blankets	3 R	2 O	4 E	
Breast Binder		2 O	1 E	3 D

*Responses of six health services teachers

FACILITY/EQUIPMENT	FREQUENCY OF USE Regularly all year=R Occasionally =O Never =N		OPINION OF USEFULNESS Essential =E Desirable =D Insignificant=I	
Catheter Tray		2 O		2 D
Call Bell	1 R	2 O		4 D
Chase Doll	2 R	1 O	3 E	
Covered Inst. Tray		4 O		2 D
Covered Solution Pitcher		3 O	1 E	2 D
Double T-binder		2 O		4 D
Draw Sheet	4 R	1 O	4 E	
Dressing Jar	2 R	3 O	2 E	2 D
Emesis Basin	3 R	3 O	4 E	2 D
Enema, Fountain Syringe	1 R	2 O	2 E	1 D
Folding Screens	4 R	1 O	4 E	
Face Towels	4 R	2 O	4 E	1 D
Foot Stool	2 R	3 O	4 E	
Foot Tub	1 R	2 O	1 E	2 D
Foot Board		3 O	1 E	2 D
Gauze Shears		4 O	2 E	2 D
Gloves, Surgeon		5 O	2 E	2 D
Hamper	3 R	1 O	3 E	
Heating Pad		4 O	1 E	3 D
Hypodermic, Syringe		1 O	1 E	
Hot Water Bag	2 R	4 O	4 E	1 D
Ice Bag	1 R	4 O	3 E	1 D
Invalid Cushion Ring		4 O	2 E	2 D
Lister Bandage		1 O		1 D
Linen Cabinet	2 R		2 E	1 D
Many Tailed Binder		1 O		3 D
Mattresses	3 R	2 O	3 E	1 D
Mattress Protectors	3 R	3 O	4 E	1 D
Medicine Chest	2 R	1 O	2 E	1 D
Meynihan Towel Forceps		4 O		3 D
Operating Drape		2 O	1 E	2 D
Operating Scissors		2 O		1 D
Patient Gowns	3 R	2 O	4 E	
Pails with Covers	2 R	2 O	2 E	1 D
Pillows	5 R	1 O	3 E	2 D
Pillow Covers	4 R	1 O	4 E	
Patient Record Sorter	1 R	2 O	1 E	2 D
Pitchers, Attached Covers	2 R	3 O	1 E	2 D
Powder Shakers	2 R	2 O	2 E	2 D
Quart Graduated Measure	3 R	2 O	3 E	1 D
Rectal Thermometers	1 R	3 O	1 E	3 D
Resusitubes		2 O	1 E	2 D
Roll Over Bed Table	2 R	3 O	2 E	1 D
Round Ice Cup	1 R	2 O	2 E	1 D
Rubber Sheeting	4 R	1 O	4 E	1 D
Sheets	4 R	1 O	4 E	

FACILITY/EQUIPMENT	FREQUENCY OF USE Regularly all year=R Occasionally =O Never =N		OPINION OF USEFULNESS Essential =E Desirable =D Insignificant=I	
Sheet Blankets	2 R	1 O	3 E	
Soap Dish	3 R	2 O	3 E	1 D
Splints		3 O		3 D
Sponge Bowls	1 R	2 O	1 E	2 D
Stainless Steel Plate Covers	1 R	3 O	2 E	2 D
Sterilizer		4 O	2 E	2 D
Sundry Jar Set	3 R	2 O	1 E	3 D
Syringe Sterilizer		3 O	1 E	2 D
T-Binder		3 O		3 D
Trays, Serving	4 R	1 O	4 E	
Terry Towels	3 R	2 O	4 E	
Thermometer, Mouth	3 R	3 O	4 E	1 D
Thermometer Jar	3 R	2 O	4 E	
Thermometer Trays	3 R	2 O	2 E	3 D
Thumb Dressing Forceps		4 O	1 E	3 D
Utility Forceps	1 R	3 O	2 E	2 D
Utility Table on Wheels	1 R	4 O	3 E	2 D
Wash Basin	3 R	3 O	4 E	1 D
Wash Cloths	3 R	3 O	4 E	1 D
Wheel Chair	2 R	4 O	3 E	2 D
Other:				
II. Laundry Facilities/ Equipment:				
Washing Machine	4 R	2 O	4 E	1 D
Dryer	4 R	2 O	4 E	1 D
Iron	2 R	1 O	2 E	1 D
Ironing Board	1 R	1 O	2 E	1 D
Other:				
III. Cleaning Equipment:				
Scrub Brushes	2 R	2 O	3 E	1 D
Sponges	3 R	2 O	4 E	
Mops	2 R	3 O	3 E	1 D
Brooms, Dust Pan	2 R	3 O	3 E	1 D
Vacuum Cleaner	1 R	1 O	1 E	2 D
Other:				
IV. Home Economics Classroom Kinds of Kitchens:	4 R		3 E	

FACILITY/EQUIPMENT	FREQUENCY OF USE Regularly all year=R Occasionally =O Never =N		OPINION OF USEFULNESS Essential =E Desirable =D Insignificant=I	
V. Special Diet Aide Food Preparation Equipment:				
Gram Scale		2 O		3 D
Strainer		3 O	2 E	1 D
Slotted Spoon	1 R	2 O	2 E	1 D
Standard Hospital Tray Set-Up (Food-covers, beverage containers, etc.)	1 R	3 O	4 E	
Blender		3 O	2 E	2 D
Diet Sheet Samples	1 R	3 O	3 E	1 D
Other:				
VI. Other Facilities/ Equipment not listed above which you found useful:				

6. Was the process of getting to and/or obtaining use of any of the facilities or equipment a problem? YES _____ NO _____

   What was the facility or equipment?

   What was the problem?

7. What training and/or skills do you consider essential or important that you were unable to teach or practice because you lacked facilities or equipment? Please list.

   Skills and/or Training　　　　Needed Facilities/Equipment

8. What special skills were you able to teach and practice because of available facilities or equipment? Please list.

   Skills　　　　Facilities/Equipment

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  Eternal children.
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  Homes that care.
  Hospital food service personnel training: Equipment.
  Hospital food service personnel training: Individual.
  Mental hospital.
  On our own.
  Rescue breathing.
  Role of nursing in infection control.
  The heart: How it works.
  The housefly.
  The patient is a person.
  The road back.
  View from the mountain.

VARIABLES: CORRELATION MATRICES

Completed/dropped course
Grade
SES
IQ
Age
Hours work at home
Mother works
Mother's education
Father's education
Health
Attitudes Toward Work, I and II*
Married Women Working, I and II
Attitude Toward Health Services Jobs, I and II
Reading - Stanford Achievement Test
Numerical - Stanford Achievement Test
Achievement test: Preparation for Employment in Health Services, I and II
Units of vocational education
Ave., four General Employability Scales, Teacher Ratings, I and II
Ave., four General Employability Scales, Student Self-Ratings, I and II
Becoming Employable, Teacher Ratings, I and II
Becoming Employable, Student Self-Ratings, I and II
Management Scale, Teacher Ratings, I and II
Management Scale, Student Self-Ratings, I and II
Absenteeism
Absenteeism - different from last year
Academic Average-Cumulative
Academic Average-Current
Mark in Occupational Education Course
Expectations of working after finish education, I and II, after marriage, I and II, after children, I and II, after children go to school, I and II, after children leave home, I and II
Total expectations of working, I and II
Attitude Toward Home Economics, I and II
Need money, I and II
Attitude toward school, I and II
Attitude toward type of job, I and II
Interest in occupational training, I and II
Expectations from this course, I and II
Self-confidence, I and II

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*Pretest and posttest

Attitude toward working with others, I and II
Work experience - inside/outside school
Work experience - paid/unpaid
Work experience - related/unrelated to course
Hours worked per week pre-course
Total Type I - paid, related outside
Total Type II - paid, related, in school
Total Type III - unpaid, related
Total Type IV - paid, unrelated, outside
Total hours work experience
Money earned during course
Job status - pre-course, post-course, and follow-up
Wage - pre-course, post-course, and follow-up
Employer's rating
Job satisfaction rating
December or summer follow-up
Nurse Aide or Diet Aide Scale, Teacher Rating, I and II
Nurse Aide or Diet Aide Scale, Student Self-Rating, I and II
Converted Index Score
Concept of Self in World of Work, I and II

Item Discrimination: Nurse's Aide Descriptive Rating Scale

Adaptations of Item Discrimination Formula Where Each Item Has Maximum Value Greater Than One

$$D = \frac{X_H - X_L}{N \cdot M}, \text{ where}$$

X_H = total item score for high group

X_L = total item score for low group

N = number of pupils in each of the two groups

M = maximum possible score